Clinical Lecture
ON
PRIMARY CANCER OF THE LUMBAR VERTEBRÆ AND SACRUM,
SIMULATING, AT AN EARLY STAGE, CARIES OF THE SACRO-ILIAC SYNCHONDROSIS.

Delivered at St. Mary's Hospital,

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GENTLEMEN,—E. K——, aged thirty-five, married, was admitted into the medical wards on the 13th February, 1878, and died on the 27th May. Perhaps in explaining this case it will be better to lay before you the post-mortem records prior to touching upon the history of the disease, as by this means you will more readily understand the course pursued by the disease, and recognise in what manner the symptoms were accounted for.

Post-mortem examination.—Nodules of cancer, apparently originating primarily in the substance of the bone, occupied the right side of the bodies of the three lower lumbar vertebræ and the greater portion of the sacrum; the bodies of those bones being replaced by the cancerous mass. The bones were soft and easily broken down, but there was no displacement. The right ilium was thickened and softened, being easily cut with a knife. The mesenteric and lumbar glands were enlarged, and infiltrated by cancerous matter; and the peritoneum was increased in thickness. The pelvis of the left kidney was much dilated, and cancerous material surrounded the ureter for about two inches, so as to almost obliterate it; the weight of the left kidney was nine ounces, and that of the right five ounces. There was no deposit in the liver. In the chest, the aorta and trachea were surrounded, hardened, and glued together, by cancerous deposit; there was a quantity of serum in both pleural cavities.

Now, having learned from the post-mortem examination exactly what pathological changes had taken place, we may proceed to examine the symptoms produced by those changes, and compare them with similar symptoms which are produced by other diseases.

History.—The family of the patient's parents were healthy, her father being still alive, her brothers and sisters being in good health, and her mother having died after fifteen years' hemiplegia. The patient had been married thirteen years, and had given birth to ten children, of whom five were dead. The last confinement occurred on Jan. 10th of the present year, the child being born prematurely, and since dead, and this confinement seemed to have been the cause of her present illness, for up to within about two months of the confinement she had been in good health, and since that time her disease had been increasing in severity.

Symptoms.—She first complained of pain in the back and loins, extending down the legs, and more especially the right leg, about four months ago, but since her confinement she had been unable to move about, for her pain became excessive, and she felt that she was unable to support herself. Her appetite was capricious, and she complained of thirst; her tongue was coated. Pulse 120; temperature 100·4°. Respiration was normal, and the heart and lungs were sound. Pressure produced pain in the right groin in front, and also in both gluteal regions, but more especially the right. There were no enlargements felt anywhere in the abdomen, though examined for. The urine was of a cloudy straw colour, depositing pink lithates on standing, acid reaction, sp. gr. 1033, no albumen. The case, you must understand, was at this time in the medical wards, but no substantial medical diagnosis could be ventured upon the symptoms which presented themselves, and as it was reasonably suspected that parturition was the promoting cause of the disease, the obstetric physicians were requested to examine the patient. They reported that there was no pelvic tumour, nor abscess, nor any sign of pelvic cellulitis, and that the uterus was normal. Medicine and obstetric medicine failing, the case was referred to a surgeon.

I examined her on the 21st of March, and I will now tell you what diagnosis I formed, and from what signs I formed it. I found the patient in bed, and unable to stand or to sit—that is to say, she was unable to support the weight of her head and trunk upon the pelvis. She informed me that she was able to stand before her confinement, but that she had not been able to do so since. On turning her upon the abdomen, I discovered œdema over right half of sacrum and right lower lumbar vertebræ, extending outwards over the posterior third of the ilium, so that none of those bones could be distinctly felt. Flexing and extending the right hip-joint gave great pain, but gentle movement of the hip-joint gave no pain. This was further evidence to me that the hip-joint was not affected, and that the disease affected the pelvic bones. Shaking the right ilium gave great pain; shaking the left ilium also gave pain, but not to be compared with the pain produced on the right side. I evidently had then to deal with a disease affecting one or more of the bones of the pelvis, and on the right side of the pelvis. The temperature, which varied from 100·9° to 98° Fahr., exhibited the irregularity characteristic of a hectic, in which the rise is always at night and the fall in the morning. Here, as you see, the rise is sometimes at night, sometimes in the morning—a condition which occurs (1) in the early stage of caries before any collection of pus takes place, (2) in caries of cartilages of small joints of a slow or subacute form, the constitution not being much affected, and (3) in internal cancer, as I have recently ascertained by an examination of the charts of cases which have subsequently died of cancer.

Every one of these signs pointed to injury and caries of the right sacro-iliac synchondrosis. 1. There was the labour, which in a person of a strumous diathesis would be liable to bring about this disease. 2. There was inability to sit or to stand—that is, to bear the weight upon the pelvis. 3. So far as we could judge, that inability to stand or to sit was due to some morbid condition on the *right* side *only* of the pelvic bones. 4. There was such a thermometrical chart as occurs in caries of a small joint. 5. There were œdema and the external signs of inflammation immediately along the line of the sacro-iliac synchondrosis, and extending a little distance above it. 6. There was pain always in the sacral region. 7. No collection of matter was to be detected, and it must be particularly borne in mind that caries of this joint may continue for months, even, I may say, for years, before any abscess can be detected.

Such was my diagnosis of the case at my first visit, and such was the reasoning upon which I framed the diagnosis; and it is well that I should here point out to you the fact that the cancer occupied the base of the sacrum, including a large portion of the bone, and in close proximity to the right sacro-iliac synchondrosis; and I should further add that the cancer, as it extended, developed itself entirely on the right side of the bodies of the vertebræ, thus accounting for all the signs I have mentioned.

Having concluded that the disease was in the sacro-iliac articulation, the prognosis was extremely unfavourable, for in a person of thirty-five years of age suppuration would ultimately occur, and would probably continue until it had exhausted the patient.

The line of treatment to be adopted was clear. Complete rest, with attention to diet and to the ordinary functions, and the combating of any symptom, such as insomnia &c., which might show itself, with the object, if possible, of preventing suppuration, and of directing a resolution of the inflammation—results which, if obtained, could not be expected without a very lengthened period of treatment. She was ordered the dialysed solution of iron; and to relieve the pain and obtain sleep, subcutaneous injections of morphia, when not able to be dispensed with. A starch bandage was applied around the pelvis, right thigh, and lumbar region.

I shall now point out certain important symptoms which exhibited themselves during the progress of the disease. On April 8th she lay upon the left side, with the legs somewhat flexed, and from that time refused to turn upon the right side or upon the back. Extension of the right leg gave pain in the loins, and she now complained of pain generally in the loins more than in the sacrum, as hitherto. There was hyperæsthesia and œdema of the right leg, and a few days later motor paralysis. On the 20th there was great relief from the spinal and sacral pain, and concussion of the pelvis produced comparatively little pain, whilst at the same time

the power to pass urine had diminished, and retention followed; and on April 29th there was complete loss of sensation in the parts to which the anterior tibial nerve was distributed, when a needle was inserted to the depth of about one-eighth of an inch. All these symptoms were evidence of the advance of the disease, and were such as would result from extension of inflammation, with œdematous infiltration in the spinal canal. Since the death of the patient, we have ascertained that these symptoms were due only to the œdema, for the new growth had not penetrated the posterior part of the sacrum nor of the vertebræ, and, therefore, there was no compression of the cord by the cancerous mass. The symptoms showed further that, if the disease had commenced in the sacro-iliac joint, it was not limited to it now, but had spread at least into the substance of the sacrum, and was affecting the spinal canal and its contents. The fact that concussion of the pelvis did not induce the same excessive pain, as in the earlier stage of the disease, must be accounted for by the destruction of some nerve-tissue in the substance of the bone, and the compression of the sensory nerves and the spinal cord, complete loss of sensation having occurred, as we have seen, in some nerve fibres (the anterior tibial).

On May 2nd an instructive change had taken place. She said that her loins were no longer painful, and she consequently felt her health improved, but she added that her left leg troubled her more than the right. The fact was that there was little or no power of sensation in the right leg, whilst hyperæsthesia now prevailed in the left, and the left leg, too, was paralysed. On the 13th she said she was better, for the pain was not so severe in the left leg, but on pricking the limbs with a needle she was unable to tell where the needle was, and in most places was unable to tell that she was being pricked by it. Strangely enough, she could on this day raise her right leg about two inches from the bed, a feat she had not been able to perform for some weeks. From this date to the time of her death on May 27th there was some slight improvement in the power of sensation in both legs, and on some days she was able to raise her feet from the bed, whilst on other days she was unable to do so.

These changes are easily explained, for, as I have already told you, the motor and sensory paralysis was entirely due to œdematous infiltration around the cord and along the nerves. Now it invariably occurs that when cancerous growths first appear and grow they compress and close up surrounding vessels, and thus, by compressing the veins, they produce congestion through venous obstruction, and consequently the parts around become swelled with œdema; but as the cancer increases in size it does not at all follow that the œdema will increase. On the contrary, surrounding vessels will often take up the circulation, and the infiltrating fluid is reabsorbed, so that if any nerve-filaments have become paralysed during the early period of the growth of a cancer or other tumour, they may, if not compressed by the cancer itself, recover their power, though the cancer continues to increase in size.

It might be asked, why did the motor paralysis precede the sensory paralysis, considering that the œdema probably surrounded the cord? This is a question which can scarcely be answered positively. In most cases of caries of the spine, accompanied by paralysis, and in many cases of fracture of the spine, we find motor paralysis without the sensory fibres being affected. Of course, if a growth or an angular prominence projected against the cord it would compress first the motor tracts of the cord, because they are in front; but where there is no growth nor any prominence projecting upon the cord, yet still the motor fibres are at first or alone affected. Perhaps it may be accounted for by the position of the cord, which is held by the nerve-roots close up to the venous plexus, which covers the post surface of the bodies of the vertebræ, and to which probably in a great degree is due the œdema or inflammatory infiltration, as the case may be. Oliver has given another reason—namely, that the motor impulses are transmitted by the superficial parts of the cord, whilst the sensory fibres run to the deep parts of the cord.

There is yet another point to be recollected with reference to paralysis in this case. At one period of the disease retention of urine took place, and catheterism had to be employed, but as the disease advanced the catheter was no longer necessary, and the patient voided her urine without assistance. The explanation of paralysis due to infiltration also holds good here.

Throughout her illness she perspired profusely; the pulse varied between 112 and 120, and was small and weak; the tongue was clean and moist; her appetite was indifferent; her nights were sleepless, mainly in consequence of the pain. The temperature at this time showed a rise sometimes at night, sometimes in the morning, never exceeding 101°. From about the 20th April it rarely rose above 99°, varying between 97° and 99·4°. From this it would appear that the temperature and the pain bore some ratio to each other, for about the same time that the temperature declined we find that the patient expressed herself better and free from pain.

Remarks.—Now, the great questions arise: (1) Was it possible in this case to diagnose that the disease was cancer? and (2) Has this case taught us anything by which we may feel more certain of the character of the disease, should a similar case come before us?

First: I am inclined to say that it was impossible to make a positive diagnosis in the case, the history of which I have just recited. Mr. Shaw, of the Middlesex Hospital, in his article on disease of the spine in Holmes's "System of Surgery," says: "A cancerous tumour is not unfrequently mistaken, according to its situation, for either a lumbar or a psoas abscess, and the uncertainty is increased if the cancer have invaded the spine, and, by converting part of it into its own morbid structure, has caused the column to become bent."

Now, these remarks by Mr. Shaw refer to cancer when the tumour can be felt; how much more, then, is one likely to mistake the disease when there is not even the presence of the tumour to guide one in the diagnosis? In the case of E. K——, careful examination of the abdomen and by the rectum and vagina, and of the abdominal organs, was made, but no tumour was discovered, for the cancer in this case occupied the bone-tissue chiefly, and projected from the sides of the bodies of the vertebræ only in the form of small nodules, which could not be detected among the abdominal organs. In this case we had only the subjective symptoms of the disease to guide us—not an objective sign was present. The disease evidently commenced in the sacrum, for in the first instance the pain was referred entirely to the sacrum and sacro-iliac region; all the symptoms, as I have already explained, were traceable to the sacro-iliac region; the œdema likewise commenced over the right sacro-iliac articulation. All the early symptoms and signs were such as are present with caries of the spine or sacrum or sacro-iliac articulation, and as these diseases are comparatively common, whilst cancer of the spine is extremely rare, we might well expect to find caries instead of cancer.

Secondly: Have we learnt anything from this case which may lead to more certain diagnosis in similar cases? I think I may sum up a number of points bearing on the diagnosis of cancer, and which have been illustrated in thecase of E. K——. I must here remark that cancer of the spine is so rare a disease, whilst caries is so common, that we shall anticipate the one by excluding the other. (1) With regard to the position of pain, we are very liable to be misled as to the seat of the disease. The nerves affected by internal cancers are not those which we are in the habit of using for touch. They are not, if I may use the word, educated like our nerves of touch, to tell us precisely where the injury is received; and, again, the plexus connexions of internal nerves are so numerous that sensations may be referred incorrectly, just as you know pain in the forehead often occurs as the result of a decayed tooth. Pain therefore must be taken as a sign of the seat of disease only when we can distinctly limit it by digital examination, or when it affects nerves the precise communications of which are well known; such, for instance, as a pain in the knee, indicating hip-joint disease. Touching upon this point, I shall refer to four cases of cancer of the spine which were marked in their early stage by acute pain in the hip-joint and its neighbourhood. One, E. K——, whose case we are now considering. A second, which is published in the Pathological Transactions (vol. xix., p. 426), in which the earliest symptoms were excessive and continued pain, and some restriction of movement in the right hip-joint, followed by the development of a painless tumour in the region of the spleen. The cancerous tumour subsequently involved the left kidney, and the bodies of the first three lumbar vertebræ, but not encroaching upon the spinal canal, and not altering the structure of the cord or of the nerves, though this patient suffered from excruciating pains of a

darting character down the right thigh and hip. A third case is reported in the Pathological Transactions (vol. xix., p. 356), in which there was extreme pain in the left hip, pelvis, and thighs, followed by numbness of the legs, with complete paralysis. The two lower lumbar vertebræ were converted into cancerous structure, soft and swollen. It was also found that the head of the femur, though not altered in size or shape, was soft and easily cut with a knife, and this tissue, examined by the Morbid Growths Committee, was declared to be an infiltration of cancerous cells. The ilium here, also, was swelled with the same infiltration. (This patient had had her breast ulcerated with cancer for eighteen months.) The fourth case may yet be said to be a little doubtful as one of cancer. She is a lady under my care whose breast I removed for cancer about a year since. Five months ago she was attacked with excruciating darting pain in the right hip, and movement of the hip increased the pain; then the pain extended to the sacrum and lumbar region. Then came hyperæsthesia in the right leg, and afterwards in the left leg. At the present time both legs are paralysed. I have examined the abdomen carefully for cancerous nodules, but find none. The hip-joint itself is certainly deformed, but not more so, in my opinion, than it was before I operated upon her for cancer, she having suffered some years previously from rheumatic arthritis. How closely this case corresponds to that of E. K——.

In all these cases I have noticed that the pain was excruciating; it was darting, and it was not limited to any particular part. The pain is certainly characteristic. It is the pain of cancer. It comes on in paroxysms, whether the patient is moving or is quiet. It is a pain described by the patient, and even recognised by the medical attendant, as of rheumatic or twinging character. In no other disease is the pain like it. With caries there often is no pain at all, and when the patient is still there is never pain; but with cancer the pain may come on at any time night or day, and when the paroxysm of pain arrives the thermometer rises; hence the irregular rise and fall of temperature, the high point being sometimes in the morning, sometimes in the evening, sometimes in middle day.

Can this pain of cancer of the vertebræ be mistaken for that of rheumatic spinal meningitis? It closely resembles it, but I would say that it may be detected by two points. 1. The pains of meningitis come on only when the patient moves, whereas cancer pains occur without movement; but it must be remembered that the very slightest movement is often in rheumatic meningitis sufficient to bring on the pains, therefore this point is reduced in value. 2. The cancer of vertebræ being generally below the cervical vertebræ the pains are below that; but meningitis of any form is not limited unless clearly traceable to syphilis, and therefore the pains are more general, attacking the back and upper limbs.

Caries occurs usually in young people, and more often in children. Cancer occurs later in life, rarely under thirty-five, much more often later.

If cancer exists in any other organ, or has been removed, there is a great probability of the disease being a secondary deposit in the bones.

Perhaps the history of the case and of the family may be of some importance. Is there hereditary predisposition, through the parents, to struma or to cancer? But in the case of E. K—— there was hereditary predisposition to neither; for her relatives were proved to be particularly healthy.

Deformity is sometimes very great in cancer of the vertebræ; several vertebræ becoming affected and yielding, the pelvis may be twisted, or the spine doubly curved; whilst with caries (Pott's disease) there will be an angular prominence due to three spines of the vertebræ if one vertebra is affected, five spines if two are affected. With regard to the stage at which such deformity might be looked for, I think it may be reasonably expected that if the disease be caries, and the pain be as great as that which occurs with cancer, there must be sufficient disease to produce the deformity though the abscess resulting may not yet have appeared on the surface; so that, if no deformity exist, it is in favour of cancer.

Paralysis must result from cancer of the vertebræ. I know there are cases on record in which cancer of internal organs has spread to the vertebræ, and death has resulted without paralysis; but such cases must be looked upon rather as cases of cancer of those organs than of the bones, in which indeed the cause of death is not cancer of the vertebræ, and, as regards the diagnosis, there is usually no difficulty in such cases, for a tangible tumour decides the disease and even the organ affected. With regard to the paralysis of the two diseases, there is one point of some importance in diagnosis. Cancer of the vertebræ seems to attack the lumbar vertebræ, and in some rare instances the dorsal vertebræ; and, as I have said before, this disease is surely followed by paralysis. There is usually no difficulty in recognising that the disease, whether cancer or caries, is confined to the lower vertebræ, and the important point I refer to is this, that caries of the lower vertebræ is *never* accompanied by paralysis. Paralysis in Pott's disease never occurs unless the disease is above the middle dorsal region, and even in this region only in the proportion of one to three. If, therefore, it is determined that the disease is in the lumbar vertebræ, whilst at the same time there is paralysis, the symptom points markedly to cancer.

The advantage of a digital examination of a *tumour* is very great in forming a diagnosis, but a tumour is often not to be discovered, and it is in the absence of such that you will find the foregoing points of great service in forming a conclusion as to the character of the disease. If the disease be cancer no tumour need be felt or even present. In the case of E. K—— the growth consisted of only small nodules along the vertebræ, not able to be distinguished behind the abdominal viscera. In many cases there is only a secondary infiltration of several bones, and no tumour at all. If, on the other hand, the disease be caries, the collection of pus may be small in quantity, or may be contained within a loose sac, so that it cannot be detected in the form of a tumour. We must then decide without the assistance of the tumour to guide us; but if a tumour be discovered, still we must value the characters of the enlargement only as a series of signs possibly fallacious. Mr. Shaw, in an article in Holmes's System of Surgery, says: "It is the nature of medullary cancer to throw out globular projections on the surface, resembling greatly the pointing of an abscess; moreover, the feeling of elastic resistance at the apices of these lobes is so much like that of undulations of pus within an abscess that a mistake in diagnosis is very apt to be made." I will not, however, touch further upon the diagnosis of tumours; this is a subject you can learn for yourselves from your books on systematic surgery. I think, however, I have shown you several points by which you may almost certainly diagnose cancer from the other diseases of the vertebræ.

OBSERVATIONS IN URINARY PATHOLOGY AND THERAPEUTICS.

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I. EFFECT OF BICARBONATE OF POTASH ON THE ACIDITY OF URINE.

TWENTY-EIGHT years ago Dr. Bence Jones, in a paper read before the Royal Society,[1] showed conclusively, from a series of observations, that large doses of sesquicarbonate of ammonia not only did not diminish the acidity of the urine, but actually increased it; as he found that the day when most carbonate of ammonia was taken the acidity was higher than it had been any previous day, and that the acidity of the urine was still very high on the day following its discontinuance. Four years later a similar observation was made by Dr. W. F. Beneke[2] with regard to the effect of bicarbonate of soda. And, lastly, Professor Parkes,[3] in his work on the Urine, published in 1860, instances a case of rheumatic fever in which the acidity of the urine on the day following the administration of bicarbonate of potash was considerably higher than on the day before it was taken.

It is strange that observations made by authorities so eminent and trustworthy, tending to controvert the generally received opinion as to the action of these alkaline bicarbonates

[1] Philosophical Transactions, 1850, Part ii., p. 673.
[2] Archiv des Wissenschaftlichen Heilkunde, 1854. Studien zur Urologie, p. 444.
[3] Composition of the Urine in Health and Disease, p. 297. Churchill. 1860.

as antacids, and establishing the contrary proposition that they increase rather than diminish the acidity of urine, should have attracted so little the attention of writers on therapeutics or urinary pathology in this country or abroad.

As the question is of considerable importance with regard to treatment, especially of those affections which are caused by the excessive formation of acid within the system, I have thought an account of some observations made by myself on the action of one of these carbonates—the bicarbonate of potash—would be of service, not merely in calling attention to an important therapeutic fact, but also in determining the circumstances that induce this apparently anomalous action, and in endeavouring to explain the paradox of these alkaline salts increasing instead of diminishing the acid reaction of the urine.

The first series of observations were made to test the effect of bicarbonate of potash on the reaction of the urine when taken before meals. The quantity of the salt taken was two drachms in the twenty-four hours—namely, one drachm at 12 P.M. (one hour before dinner), and one drachm at 8 P.M. (one hour before supper). The physiological conditions of food, rest, and work were kept as equal as possible.

OBSERVATION 1.—Sept. 7th, 8th, 9th, 1876.

	Quantity. Cub. Cent.	Acidity. Grm.	Uric Acid. Grm.
Day before	1730	1·4	0·41
Day, with 2 drs. of bicarbonate	2080	0·78	0·66
Day after	1750	2·3	0·70

OBSERVATION 2.—Aug. 10th, 11th, 12th, 1877.

	Quantity. Cub. Cent.	Acidity. Grm.	Uric Acid. Grm.
Day before	1442	2·5	1·05
Day, with 2 drs. of bicarbonate	1720	1·2	0·75
Day after	1230	3·9	1·7

OBSERVATION 3.—May 12th, 13th, 14th, 1878.

	Quantity. Cub. Cent.	Acidity. Grm.	Uric Acid. Grm.
Day before	2050	1·9	1·05
Day, with 2 drs. of bicarbonate	2190	1·2	1·6
Day after	1650	2·4	1·3

In order to determine the effect of bicarbonate of potash on the hourly variations in the reaction of the urine, when taken before meals, two observations were made. In each instance, for the purpose of comparison, the variations of the acidity of the preceding day, when no bicarbonate was taken, are given.

OBSERVATION 1.

Day preceding experiment—Aug. 10th, 1877.

	Quantity. Cub. Cent.	Acidity. Grm.	Uric Acid. Grm.
Water passed from 12 P.M. to 1 P.M.	58	0·9	·04
" " 1 P.M. to 2 P.M.	55	·08	·03
" " 2 P.M. to 3 P.M.	90	·08	·06
" " 3 P.M. to 4 P.M.	35	·07	·09
" " 4 P.M. to 5 P.M.	104	·17	·09
Total	342	0·39	0·31

Day of experiment—Aug. 11th, 1877.

	Quantity. Cub. Cent.	Acidity. Grm.	Uric Acid. Grm.
Water passed from 12 A.M. to 1 P.M.	72	Alkaline	·05
" " 1 P.M. to 2 P.M.	45	Alkaline	·04
" " 2 P.M. to 3 P.M.	40	·05	·08
" " 3 P.M. to 4 P.M.	70	·09	·08
" " 4 P.M. to 5 P.M.	90	·09	·07
Total	317	0·23	0·32

OBSERVATION 2.

Day preceding experiment—Nov. 6th, 1877.

	Quantity. Cub. Cent.	Acidity. Grm.	Uric Acid. Grm.
Water passed from 12 A.M. to 1 P.M.	34	·046	·04
" " 1 P.M. to 2 P.M.	43	·094	·06
" " 2 P.M. to 3 P.M.	41	·096	·03
" " 3 P.M. to 4 P.M.	50	·065	·04
" " 4 P.M. to 5 P.M.	60	·075	·03
Total	228	0·376	0·20

Day of experiment—Nov. 7th, 1877.

	Quantity. Cub. Cent.	Acidity. Grm.	Uric Acid. Grm.
Water passed from 12 P.M. to 1 P.M.	82	Alkaline	·07
" " 1 P.M. to 2 P.M.	60	Alkaline	·06
" " 2 P.M. to 3 P.M.	98	0·11	·04
" " 3 P.M. to 4 P.M.	150	0·13	·05
" " 4 P.M. to 5 P.M.	310	0·11	·07
Total	700	0·35	0·29

It will be gathered from these observations that though the acidity of the urine was depressed on the days the bicarbonate was taken, yet on the days following there was in each instance a considerable increase as compared with the day preceding the experiment. Besides, the actual depression of the acidity on the days when the salt was taken is much less than might be expected, when we consider the neutralising effect such a quantity of an alkaline salt would have, and it is evident that a considerable quantity of free acid must have been passed into the urine after the immediate effect of the alkali had passed off, in order to have maintained this degree of acidity. How quickly the urine recovers its acidity is shown by the subsequent observations on the hourly variations of the reaction of the urine when the salt was taken before meals; the reaction in both instances never remaining alkaline more than two hours, whilst the acid passed in the remaining three hours amounts to little less than the acid excreted in the five hours on the day preceding the experiment. It will also be observed that the excretion of uric acid was increased on the days the bicarbonate of potash was taken.

A second series of observations were made to test the effect of bicarbonate of potash when taken after meals. The quantity of the salt taken was two drachms in twenty-four hours—viz., one drachm at 2 P.M. (one hour after dinner), and one drachm at 9 P.M. (one hour after supper). The physiological conditions of food, rest, and work were kept as equal as possible.

OBSERVATION 1.—Feb. 20th, 21st, 22nd, 1877.

	Quantity. Cub. Cent.	Acidity. Grm.	Uric Acid. Grm.
Day before	1480	1·6	0·69
Day, with 2 drs. of bicarbonate	1720	Neutral	0·78
Day after	2450	1·5	0·91

OBSERVATION 2.—May 2nd, 3rd, 4th, 1877.

	Quantity. Cub. Cent.	Acidity. Grm.	Uric Acid. Grm.
Day before	2600	2·4	1·04
Day, with 2 drs. of bicarbonate	1990	Neutral	0·95
Day after	2200	1·3	1·15

OBSERVATION 3.—May 21st, 22nd, 23rd.

	Quantity. Cub. Cent.	Acidity. Grm.	Uric Acid. Grm.
Day before	1290	1·3	1·7
Day, with 2 drs. of bicarbonate	2600	Alkaline	2·1
Day after	1480	1·7	1·8

The effect also of bicarbonate of potash on the hourly variation of the reaction of the urine was determined on two occasions; and for the purpose of comparison the variations of the acidity of the day preceding, when no bicarbonate was taken, are given.

OBSERVATION 1.

Day preceding experiment—Jan. 25th, 1878.

	Quantity. Cub. Cent.	Acidity. Grm.	Uric Acid. Grm.
Water passed from 1 P.M. to 2 P.M.	53	·06	0·12
" " 2 P.M. to 3 P.M.	55	·15	0·12
" " 3 P.M. to 4 P.M.	41	·11	0·11
" " 4 P.M. to 5 P.M.	60	·04	0·07
" " 5 P.M. to 6 P.M.	61	·02	0·12
Total	270	·38	0·54

Day of experiment—Jan. 26th, 1878.

	Quantity. Cub. Cent.	Acidity. Grm.	Uric Acid. Grm.
Water passed from 1 P.M. to 2 P.M.	47	·11	0·6
" " 2 P.M. to 3 P.M.	83	Neutral	0·6
" " 3 P.M. to 4 P.M.	108	Alkaline	0·7
" " 4 P.M. to 5 P.M.	165	Alkaline	0·3
" " 5 P.M. to 6 P.M.	110	Alkaline	0·7
Total	448	—	0·29

OBSERVATION 2.

Day preceding experiment—Feb. 20th, 1878.

	Quantity. Cub. Cent.	Acidity. Grm.	Uric Acid. Grm.
Water passed from 1 P.M. to 2 P.M.	55	·11	0·06
" " 2 P.M. to 3 P.M.	34	·02	0·04
" " 3 P.M. to 4 P.M.	94	Alkaline	0·10
" " 4 P.M. to 5 P.M.	50	·02	0·08
" " 5 P.M. to 6 P.M.	306	·08	0·06
Total	539	·23	0·37

Day of experiment—Feb. 21st, 1878.

	Quantity. Cub. Cent.	Acidity. Grm.	Uric Acid. Grm.
Water passed from 1 P.M. to 2 P.M.	15	·08	·04
" " 2 P.M. to 3 P.M.	92	Alkaline	·08
" " 3 P.M. to 4 P.M.	45	Alkaline	·09
" " 4 P.M. to 5 P.M.	65	Alkaline	·07
" " 5 P.M. to 6 P.M.	105	Alkaline	·06
Total	322		0·29

The effect, therefore, of bicarbonate of potash, taken after food, on the acidity of the urine, is different from that when it is administered before meals. For when taken on an empty stomach we have seen that the acidity on the day of administration was only slightly depressed, whilst on the day following the acidity was considerably higher than it was the day before the salt was taken. But when it was administered during the process of digestion the acidity of the urine entirely disappeared, being on two occasions neutral, and on one alkaline, whilst on the succeeding days there was no marked increase in the acidity of the urine as compared with that of the days preceding the experiment. And the same difference is observable in the hourly variations of the urine, for when the bicarbonate was taken before meals the effect of the alkali passed off at the end of two hours, and the amount of acid passed in the succeeding three hours was nearly equal to what was passed on the day no medicine was taken; whilst when the salt was taken after meals the urine remained alkaline up to the end of four hours after the dose was taken, and no recovery of acidity was noticeable.

The result of these observations tends to establish the fact that the administration of an alkaline bicarbonate on an empty stomach increases the acidity of the system, whilst its administration after a meal diminishes it.

How is it that these alkaline bicarbonates have such opposite effects? Neither Beneke nor Parkes offered any satisfactory explanation of the phenomena recorded by them, the latter only giving the results of his observation as a "contribution towards a future inquiry." Dr. Bence Jones, however, came to the conclusion that the increase of the acidity of the urine in the case of sesquicarbonate of ammonia was caused by the ammonia, in its passage through the system, giving rise, by its decomposition, to the formation of a certain quantity of nitric acid. The fact, however, that a similar increase is noticed when the bicarbonates of other alkalies are administered, shows that this explanation is not in their case the true one.

The explanation that has occurred to me as the most probable, and by which the variable effect of these salts on the acidity of the urine can best be accounted for, lies in their chemical constitution, the alkaline bicarbonates being acid salts.[4] Now, the acid reaction of the urine is generally considered due to the decomposition that occurs between an acid or an acid salt and the neutral phosphate of sodium in the blood, acid sodium phosphate being formed, which passes out with the urine. Now, one of the chief acid salts in the blood is undoubtedly bicarbonate of potash or soda, an acid salt with an alkaline reaction. The decomposition which results between these two salts may be represented as follows[5]:—

Acid carbonate.		Neutral phosphate.		Normal carbonate.		Acid phosphate.
NaH_2CO_2	+	Na_2HPO_4	=	Na_2HCO_2	+	NaH_2PO_4

It is, therefore, not surprising to find the administration of an acid salt, if it passes unaltered from the stomach into the blood, causing an increase in the acidity of the urine. And this is, indeed, what happens when a dose of bicarbonate of potash and soda is taken into the stomach before meals, for then, the mucous membrane under normal conditions being either neutral or alkaline, the bicarbonate is absorbed undecomposed into the blood, and causes that increase in the acidity of the urine which has been noted. On the other hand, when the salt is taken during digestion, the acid contents of the stomach decompose it, carbonic acid is liberated which escapes by the mouth, whilst the alkaline bases pass into the system and cause the urine to assume an alkaline reaction.

The therapeutic indications to be drawn from these observations may be thus summarised:—

1. In cases of acid dyspepsia arising from the excessive formation of acid within the system, as in lithæmia, the alkaline bicarbonates should not be administered before food, but after.

2. The administration of alkaline bicarbonates before meals is indicated in those cases where the free acid is formed in the stomach itself, the result of fermentative changes of undigested food or morbid mucus, when it is necessary to diminish the too high degree of acidity thus caused in order to permit digestion to be properly performed.

[4] Sesquicarbonate of ammonia is half acid carbonate. It contains the elements of one molecule of normal carbonate and two molecules of acid carbonate. By exposure to air it decomposes very rapidly, and is converted wholly into acid carbonate.

[5] For experiment demonstrating this point *vide* THE LANCET, July, 1874, "Separation of Acid Secretions from the Alkaline Blood."

ON THE USE OF THE ACTUAL CAUTERY IN SURGICAL OPERATIONS.

By HENRY LEE,
CONSULTING SURGEON TO ST. GEORGE'S HOSPITAL.

BEFORE the introduction of anæsthetics into surgical practice, the use of the actual cautery was justly regarded as a barbarous and cruel proceeding. The traditions of one age descend to the next, and the application of a hot iron to the body is still regarded by the public, and even by some members of our profession, as a thing not to be tolerated in scientific surgery. All objections to the use of the actual cautery vanish, however, so soon as it can be said that it can be used without giving pain. We may, therefore, now fairly consider its advantages as compared with other modes of arresting hæmorrhage.

For the last twenty-five years I have been in the habit of sealing bleeding vessels with the cautery, and have of late used it occasionally in operations of all kinds. In one case amputation of the thigh was performed, a single ligature being placed upon the femoral artery. In the three following cases of amputation of the leg the actual cautery alone was used.

CASE 1.—Alfred C——, aged twelve, was admitted into St. George's Hospital on July 26th, with infantile paralysis. There was a partial displacement of the right tibia on the femur; the lower part of the skin of the right leg was generally inflamed, and of dusky brown colour; the skin of the foot was extensively ulcerated, and in many places a sloughing action had commenced. Amputation of the leg below the knee was performed on August 3rd. Each bleeding vessel was touched with the black-hot cautery. No ligature or other method was adopted to arrest the hæmorrhage.

8th.—No hæmorrhage had occurred.

10th.—There was some little sloughing at the edges of the wound.

21st.—Patient allowed to lie outside his bed.

28th.—The wound had almost closed, and a few days later the boy left the hospital, and returned to show himself some weeks subsequently with an excellent stump.

CASE 2.—Susan H——, said to be fifty-six years of age, but looking much older, was knocked down by a heavy van, which passed over her legs, and was admitted into St. George's Hospital on February 15th, 1876. She had a compound comminuted fracture of the left leg about the middle, with much laceration of the soft tissues, and also a simple fracture of both bones of the right leg. Amputation of the left leg was immediately proposed, but to this she obstinately refused to consent.

Feb. 16th.—She had wandered slightly all night. In the afternoon of this day the leg was amputated at its upper third. Each bleeding vessel was touched with the black-hot cautery, and no other means of arresting hæmorrhage was used.

17th.—Had passed a good night, with improved pulse; but she sank from collapse during the following morning.

At the autopsy, the vessels on the surface of the stump were found firmly closed by coagula, as may be seen in the preparation in the museum of St. George's Hospital.

CASE 3.—Richard S——, aged thirty-six, a labourer, was knocked down by an engine, which passed over his foot; and was admitted into St. George's Hospital on Jan. 14th, 1876. The foot was found to be completely crushed. There was also severe contusion and swelling of the face, so that he could not separate the eyelids. Soon after admission his left foot was amputated, and the vessels sealed by the actual cautery.

Jan. 15th.—There was some oozing of bloody fluid, but not sufficient to necessitate a removal of the dressings.

During the night of the 17th the oozing continued, and the wound was opened, when there was found to be blood coming from several small vessels but from none of the large ones, which had been touched by the cautery. The application of iced carbolic lotion sufficed to stay the bleeding.

On Jan. 21st the wound was covered with healthy granulations, but the patient did not leave the hospital until the 1st March, his recovery being delayed during the separation of a portion of the cut surface of the tibia.

When the facial swelling had completely subsided, a large depression in the centre of the frontal bone was plainly visible, and it became evident that the outer table had been driven in at the time of the accident.

In the present age of improved science, with the appliances of antiseptic surgery, the mode of operating with the actual cautery is not advocated as the best. It cannot, for instance, be conveniently used in conjunction with the ether or carbolic acid spray. Where, however, the means of carrying out the antiseptic measures are not at hand, the actual cautery has some very decided advantages over other modes of arresting hæmorrhage. As yet the great majority of operations throughout the kingdom are still performed under a variety of conditions which forbid the possibility of the antiseptic method being fully carried out.

The application of the cautery coagulates the albumen in the blood as well as in the tissues to which it is applied, and, if used at a proper heat, will cause the parts to adhere firmly to the iron as well as to each other. It also has the effect of coagulating the blood in the vessels, as is shown in the preparation from Case 2. A very superficial layer, if any, of the parts to which the cautery is applied is killed, and any tissue so killed is charred, so as to become not readily liable to septic decomposition.

The actual cautery has the great advantage of closing the veins as well as the arteries, and thus removes one of the gravest sources of anxiety to the surgeon, inasmuch as the great danger in surgical operations arises from the absorption of septic agents through unclosed veins. The ligature of a vein, as is well known, is not unattended with risk, for the obvious reason that during the time that the ligature is separating a certain amount of suppuration necessarily takes place, and the products of that action may give rise to septic absorption. The actual cautery, therefore, possesses a great advantage over the ligature, as far as the veins are concerned. The danger of blood infection, though in a much less degree, obtains when an artery is tied. In a vein the current of blood is towards the centre of the circulation, and in an artery from it. When mischief arises from the cause mentioned, after an injury to an artery, the effects are usually seen in the peripheral circulation. When venous absorption takes place, the results are generally manifested in the central organs.

It is not improbable that gangrene of an extremity, after an injury to the main artery of a limb, may arise from the circulation of vitiated blood more often than from a deficiency of blood. Simple want of blood is indicated by paleness of the skin. In the majority of cases of gangrene the skin contains far more blood than usual, and is of a dark-brown colour.

The septic action commenced around the ligature on an artery may be communicated to the surrounding parts, and from these septic absorption may take place through the veins; this, in fact, is one of the most fruitful sources of pyæmia. After the late American war, a most distinguished and honoured physician in Scotland entertained some of the surgeons of the Southern army, and one day after dinner remarked to them that he understood that they were in the habit of poisoning the wounds of the Northern soldiers committed to their care. The surgeons became very indignant. The physician persisted, and at last the explanation came—viz., that whenever a ligature was applied to an artery the distal portion of the vessel, together with any of the included surrounding tissues, sloughed, and became a possible source of putrid infection. No such sloughing follows the judicious use of the actual cautery. The actual cautery may be applied sometimes where a ligature cannot—as, for instance, in wounds of the deep palmar arch; but, on the other hand, a tenaculum will sometimes reach a vessel to which the actual cautery could not be effectively applied. In one case, where a very large tumour had been removed from the back, the vessels were all sealed by the actual cautery except one, which bled persistently, but the reason for this became immediately apparent: the projecting posterior edge of the scapula prevented the cautery coming fairly in contact with the bleeding vessel.

I have now used the actual cautery in a great variety of operations, and during the last twenty-five years in a large number of cases of hæmorrhoidal tumours, but as yet have had no case of purulent absorption following its use.

Within a week of the time I write, I assisted Mr. Hyatt, of Shepton Mallet, to remove a cancerous growth from the inner canthus of the eye. The bleeding was free and general, but on the raw surface being touched with the cautery all bleeding immediately ceased, and on the next day the patient expressed himself as feeling more comfortable than he had done for a long time previously. I prefer the common iron cautery to the benzoline "thermo-cautery" knife, when no dissection has to be made. The oxide of iron appears to exercise a direct influence in producing coagulation of the blood. Many years ago, when engaged in some physiological investigations, I received some blood from a horse that was being bled into an old iron vessel, coated on its inside with the red oxide of iron, and was surprised to find that the whole mass of blood became coagulated immediately.

Another, though minor, advantage of the cautery is that it can be applied much more quickly than the ligature; and this is by no means unimportant when many vessels have to be dealt with. Practically, it is difficult not to use the cautery too hot, as if it kill the parts to which it is applied the desired result is not produced. A good test as to the cautery being at the required heat may be obtained by dabbing the iron on a moderately wet sponge until only a little steam is generated.

Savile-row, W.

ON THE REMEDIAL APPLICATION OF THE ETHYLATES OF SODIUM AND POTASSIUM, OR CAUSTIC ALCOHOLS.

BY BENJAMIN W. RICHARDSON, M.D., F.R.S.

THE great interest displayed at the last meeting of the Medical Society of London on the subject of the ethylates of sodium and potassium, which I introduced into medicine in the year 1870, leads me to think that a brief description of these substances and of their medicinal application may be of interest to the wider circle of medical practitioners who are readers of THE LANCET.

The ethylates first came into my hands for study when I was conducting a series of experimental inquiries on the action of the different alcohols. They are sometimes called alcohols because in them the atom of hydrogen which in alcohol is, with its radical, combined with oxygen, is replaced by an atom of sodium or potassium. Thus, taking ethylic alcohol, which is composed of the radical ethyl (C_2H_5), hydrogen and oxygen, as the type, the sodium or potassium replaces the hydrogen:—

Ethylic Alcohol.	Sodium Alcohol.	Potassium Alcohol.
$\left.\begin{matrix}C_2H_5\\H\end{matrix}\right\}O$	$\left.\begin{matrix}C_2H_5\\Na\end{matrix}\right\}O$	$\left.\begin{matrix}C_2H_5\\K\end{matrix}\right\}O$

The first object of research was to ascertain what would be the effect of introducing a new element, by substitution, into a substance,—alcohol,—the physiological action of which was understood; and the subjoined description formed part of my report to the British Association for the Advancement of Science in 1870.

Sodium Alcohol, or *Ethylate of Sodium*, is prepared by treating absolute alcohol with pure metallic sodium. So soon as the sodium comes in contact with the alcohol there is escape of hydrogen, and the addition of sodium has to be continued until action ceases. I find it good to increase the temperature gradually as the action declines. At last there is obtained a thick, nearly white product, which is a saturated solution of sodium alcohol. From the solution the ethylate of sodium crystallises out in beautiful crystals.

When the ethylate is brought into contact with water it is decomposed, the sodium becoming oxidised by the oxygen of the water to form sodium hydrate, and the hydrogen of the water going to reconstitute the ethylic alcohol.

The change of ethylic alcohol into sodium alcohol transforms it from an irritant to a caustic. Laid on dry parts of the body the sodium alcohol is comparatively inert, creating no more change than the redness and tingling caused by common alcohol; but so soon as the part to which the substance is applied gives up a little water, the trans-

formation I have described above occurs; caustic soda is produced in contact with the skin as water is eliminated by the skin, and there proceeds a gradual destruction of tissue, which may be so moderated as hardly to be perceptible, or may be so intensified as to act almost like a cutting instrument.

Potassium Alcohol, or *Potassium Ethylate*, is made in a similar manner as sodium ethylate—viz., by bringing pure potassium into contact with absolute alcohol. The action of the potassium is much more energetic than that of sodium. I prefer to immerse the potassium under the alcohol in a small glass bell, from which there is a tube to allow of the escape of the liberated hydrogen. When saturation is complete, a thick and almost colourless fluid is formed, from which the ethylate may be obtained in a solid crystalline state. Exposed to water, the potassium ethylate is transformed, as is the sodium ethylate, into ethylic alcohol and potassium hydrate. The action of this compound on animal tissues, living and dead, is the same as that of the sodium compound, but is more energetic.

PRACTICAL USES OF SODIUM AND POTASSIUM ALCOHOLS.

I do not as yet see the means of applying readily these two active alcohols for internal administration, but I can predict for them a very extensive application for external purposes. They are most potent caustics. In some cases they may be employed to destroy rapidly such morbid growths as are not favourable for excision by the knife. In many cases of cancer they will prove invaluable, and will, I believe, exert a direct local curative influence. Injected into morbid growths, they would so quickly destroy them that the action might have to be conducted while the body was under the influence of an anæsthetic.

In being applied direct to the sensitive unbroken skin, I find that their destructive action is less painful than would be expected. I have made with both compounds a superficial eschar on my arm with no more pain than a slight tingling warmth. What is more, when pain is felt, it may be checked quickly by dropping upon the part a drop of chloroform, which decomposes the alcohol, converting it into a chloride salt, and an ether—triethylic—which is inert locally. Again, I find that these alcohols dissolve some of the vegetable alkaloids. Thus opium may be dissolved in them, and a solution of opium in caustic alcohol is made directly by mere addition of the narcotic to the caustic spirit. Practical men will see the advantages of combinations of these alcohols with narcotics. The practice opens the way to one of the greatest needs of medicine—a sure, rapid, and painless caustic.

The caustic alcohols may be used in combination with local anæsthesia from cold. A part rendered quite dead to pain, by freezing with ether spray, could be directly destroyed by the action of caustic alcohol—a practice very important in the treatment of poisoned wounds, such as the wound from the bite of a snake or a rabid dog. It is by no means improbable that some cystic tumours may be cured by the simple subcutaneous injection of a little of these fluids after destruction of sensibility by cold.

Potassium and sodium alcohol, added to the volatile hydride of amyl, dissolve in the hydride and produce a caustic solution. When this solution is applied to the skin, the evaporation of the hydride takes place, and a layer of the caustic substance is left behind. This application would prove very useful to the surgeon in many cases of disease.

The action of the ethylates on the blood is extremely rapid and marked. The red corpuscles are brought by it into solution, and there forms (quickly in some cases) an almost instant crystallisation of blood; the crystals are acicular, and spread out in arborescent filaments. The arborescent appearance is identical with the crystallisation of the ethylates themselves, but the smaller radiant crystals are due, I believe, to the crystallisation of the crystalloidal matter of the blood-cells. They are singularly like the crystalline forms which have been described, since the time of Dr. Richard Mead, as occurring in the blood after infection by the poison of the viper. One other peculiarity in the action of the ethylates on blood is worthy of notice: while they seem to attack and dissolve the red corpuscles vigorously, they act with comparative slowness on the white corpuscles, so that we may see a white corpuscle floating uninjured in a sea of red colouring fluid previous to crystallisation, and even adhering to the crystalline points after crystallisation.

The ethylates possess also powerful antiseptic properties, so that even nervous matter, which of all animal substance is most prone to decomposition, can be long kept in good preservation in the presence of them.

This was my report in the year 1876 on these ethylates, and since then I have used them often in practice with much success. The ethylate of sodium is the most manageable. It is very easily made, and its caustic property can be changed in different specimens, to suit different cases. The solution I use is one of half saturation, and I keep the solution in a bottle having a glass rod descending from the stopper, the end of the rod being somewhat pointed. With this rod I lift the solution from the bottle and apply it from the point of the rod. At one time I used a glass brush for the purpose, but I found the brush objectionable, the small fibres of glass being disposed to break too easily.

The first idea that occurred to me in respect to the application of the ethylates was founded on their action physically. It seemed to me reasonable to suppose that if the ethylate were applied to a moist external growth there would be produced two changes: a caustic action would be set up, and at the same time the alcohol would cause instant coagulation of the fluids of the part, so that the destruction of structure would be purely local and concentrated. In addition to this there would be the advantage of the antiseptic action, which is so marked. Three forms of disease were, I thought, amongst the best for its use—cutaneous nævus, lupus, and malignant ulcer.

TREATMENT OF NÆVUS WITH SODIUM ETHYLATE.

In 1870 I treated with the ethylate a case of nævus on the neck of a child two years old. Not more than six applications of the fluid were made when the nævus was entirely removed, and a sound surface was left. The nævus in this instance was so small I did not consider the trial of sufficient value; but soon afterwards my friend, Mr. Gay, was good enough to show me a case of nævus of the scalp in a child under his care at the Great Northern Hospital. The nævus was of the full size of a half-crown, and extremely prominent. It had been treated on various plans—by tying, by nitric acid, and other methods,—but without success. Mr. Gay having consented to my request that the ethylate should be applied in this case, I sent a specimen of the remedy to the hospital for use there. Instead of this the patient was sent to my house that I might apply the caustic myself. I commenced by covering the nævus lightly with the solution. The application gave very little pain, but soon a dark surface showed that the caustic had taken effect. Three days afterwards a firm hard encrustation had formed where the caustic had been applied, which encrustation I did not then remove. A few days later, the hard crust being loose, I gently raised it away to find the nævus greatly reduced in size. The ethylate was again applied to the surface of the nævus, and the same process was continued until the nævus was entirely removed, and a natural surface was left. The case was under my treatment nine weeks and three days. Some time afterwards the child was brought to me so completely well that it was not easy to discover where the nævus had been.

Dr. Brunton's cases, which he so ably reported at the Medical Society, are similar in kind, and his results are equally good. I referred at the meeting to some other cases in which I had used the ethylate. These I will notice at length on some future occasion. It is better now for me to give one or two practical hints for those who wish to use the ethylates.

PRACTICAL NOTES.

In making the ethylate of sodium, which is the most manageable, it is best not to make much at a time. Put half a fluid ounce of rectified alcohol (sp. gr. 0·975) into a two-ounce test-tube, set the test-tube up in a bath of cold water, and add, in small pieces at a time, some cuttings of pure metallic sodium. A gas, hydrogen, will at once escape. Add the sodium until the gas ceases to escape, then warm the water in the bath to 100° F., and add a little more sodium. When the gas again ceases to escape, stop the putting in of more sodium; or, if crystallisation takes place, then stop. Afterwards cool down to 50° F., and add half a fluid ounce more of alcohol. This will give a good working solution, which can be made more active by adding sodium, or less active by adding alcohol.[1]

[1] The ethylates have been made for me, very carefully, by Messrs. Robbins, of Oxford-street, for medical use.

Put the solution in a glass stoppered bottle, and have the bottle always well closed.

Keep the bottle always in a cold place. Once, a bottle of the ethylate, left during summer time exposed to the sun in my laboratory, exploded, so that the bottle was broken and the contents spilled.

Always apply the ethylate with a glass rod.

The ethylate solution must not be mixed with other fluids than alcohol. Mixed with chloroform, in quantity, a violent action is set up, and the ethylate is decomposed into chloride of sodium and an ether—triethylic.

The ethylate is not so manageable for subcutaneous injection as for application to the surface by the glass rod. It specially deserves trial in lupus, in malignant ulcer, and in vascular cutaneous growths and excrescences.

The addition of an alcoholic solution of opium lessens the pain of an application.

LAPARO-ELYTROTOMY.

BY THOMAS WHITESIDE HIME, B.A., M.B.,

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THE following is the first case of laparo-elytrotomy which I have heard of being performed in Europe.

On Sunday afternoon, July 14th, I was summoned by one of the midwives attached to the Hospital for Women[1] to visit Mrs. O'M——, who had been in labour (at full time) for over twenty hours without any advance of the child. On entering the wretched house, situated in a court, I was almost overcome by a most offensive stench. It was so horrible that I asked if pigs were kept in the house, really believing it was the case. I learned, however, that the unfortunate patient was the source of the fetor. I found her advanced in labour to the end of the first stage, the child being alive and in the first position, the head only entering the brim. The recto-vaginal septum was converted into a cancerous mass, compact, inelastic, and rough, which extended from the perineum to within an inch of the posterior vaginal cul-de-sac. The upper part of the posterior and the anterior wall of the vagina were soft and elastic, and the uterus also was apparently quite healthy. The vagina was so narrowed by the new growth occupying its posterior wall that less than two inches remained for the passage of the child. Labour-pains had ceased entirely for over an hour.

History.—The patient was thirty-seven years of age, had been married ten years, and had borne nine children, pregnancy on each occasion lasting the full time. Four children still survived. During her whole married life she had been a rather heavy drinker, her habits in this respect being conformable to those of her husband. Her face and large fatty liver and heart gave evidence of this. Her last child was two years old. For about a year after its birth she became very stout, but subsequently she lost much flesh, and was when seen a thin, badly nourished woman. For the past eight months she had suffered from excruciating pain in the rectum, with occasional attacks of severe hæmorrhage, and for the last three months her motions had only come per vaginam. There was a constant and stinking discharge from the anus and vagina. For the last eleven weeks she had been unable to get out of bed, from debility and pain; and for over forty-eight hours preceding my visit she had been incessantly vomiting, being unable to retain anything in her stomach. For some days she had been suffering from diarrhœa. The heart's action was feeble and irregular.

It was evident that operative measures alone could effect the delivery of the child, which was still alive. The limited size of the vagina, which was scarcely two inches wide; the nature of the obstruction, its unyielding character, and its disposition to hæmorrhage, as evidenced by the serious losses of blood which had frequently occurred spontaneously; and the fact that the child's head had not passed the outlet,—precluded operation by the vagina without fatal laceration. Having then just read the very interesting paper by Dr. T. Gaillard Thomas, of New York, on Laparo-elytrotomy,[2] I determined to try it, as the state of the woman was so grave that Cæsarean section would evidently cause instant death. As the patient assented to my suggestion, I had her removed to the Hospital for Women. Owing to the day and the hour, I could only get the assistance of one of my colleagues at the hospital, and I had great difficulty in finding one other medical man at home to help me. At 6.30 P.M. I proceeded to operate, assisted by Drs. E. Jackson and O'Keefe. Had the case not been urgent, I would not have operated with only three pairs of hands, as one of them being necessarily occupied exclusively with the anæsthesia, the two others are insufficient in number (no matter how efficient) for what has to be done. But had the child descended into the pelvis laparo-elytrotomy would probably have been rendered impossible, and fatal injury would very likely have been done. So further delay was unadvisable.

Operation.—I intended performing this operation under strict antiseptic precautions, as I am in the habit of doing when possible, but unfortunately the spray belonging to the hospital was at the time being repaired, and one which I borrowed was not in good order. With the exception of the spray I employed antiseptic measures. The patient having been placed on the operating table and chloroformed, I made an incision through the abdominal wall in the direction of a line extending from the spina iliii ant. sup. sinistr. to the spina pubis. After a little difficulty in distinguishing a layer of fat which simulated the appearance of the omentum, the peritoneum was reached and readily recognised, being much more ample than in non-pregnant women, and hanging in folds at the bottom of the wound. I next passed a blunt probe up the vagina, and by it pushed the anterior vaginal cul-de-sac into the wound. Seizing this with a pair of hooked forceps, I divided it, and passing my finger through the orifice, felt the os uteri. Some slight difficulty was experienced at this part alone of the operation, owing to the small space which existed between the anterior surface of the enlarged uterus and the brim of the pelvis. Having extended the wound, I passed my hand through it into the fully-dilated os, which was occupied by the head and bag of waters. I at once seized a foot and turned, and delivered a living male child without the least difficulty, the placenta being delivered simultaneously. The uterus contracted rapidly, and there was no uterine hæmorrhage. There was not over an ounce of blood lost in the operation, a couple of small arteries, which were divided in the incision, having been at once secured by torsion. In fact, few ordinary labours are completed with less loss of blood. The operation lasted a little over twenty minutes. The wound was washed with carbolic lotion (5 per 100), and closed with gut sutures, and antiseptic dressings applied. The patient was then put to bed with hot bottles &c. She was very much exhausted, and twice during the operation her heart became ominously feeble. On partially recovering, she became most violent, throwing herself about, shouting and using most abusive language. Three persons could scarcely hold her down in bed. After half an hour she became calmer and more rational, and subsequently had some hot coffee and brandy (ether had been previously injected subcutaneously), which seemed to do her good. From time to time she again grew violent, but speedily sank exhausted, though sensible. She seemed to be rallying, when, after about two hours, she unexpectedly sat up in bed, but in a few minutes grew livid, faint, and sank dying. Artificial respiration was tried in vain for ten minutes, and other measures, but ineffectually, and she shortly expired.

Necropsy.—Next day I made an examination of the parts involved in the operation before the members of my class, going through the steps of the operation for their benefit on the right side of the body. A clot, about the size of a couple of walnuts, lay in the bottom of the wound. The bladder and peritoneum were quite uninjured, and all other parts except those intentionally incised. The uterus was well contracted, quite healthy, and the os and cervix free from laceration. There was no trace of cancerous disease in the upper part of the vagina.

[1] Except in cases in which danger is anticipated, the midwifery of this hospital is domiciliary, and is attended to by midwives. The medical officer on duty for the month attends when summoned to complicated cases at the patient's home. Other arrangements are being made at present.

[2] The name is compounded of Λαπάρα (the groin), ἔλυτρον (the vagina), and τομή (incision). It might, with propriety and advantage, be shortened to Laparelytrotomy.

Remarks.—That the fatal termination of this case was not a thing to be surprised at will be the opinion of most readers, as well as that Cæsarean section would not have been more successful. My opinion is that the unavoidable hæmorrhage, and the shock of cutting through the abdominal wall, laying bare the abdominal cavity, and dividing the uterine wall, would have caused the diseased and debilitated patient to die on the table. Had she been less violent, or strong enough to have justified one in giving morphia, or continuing the anæsthesia, her life might probably have been prolonged. That laparo-elytrotomy is a simple and feasible operation, I believe every reader will admit. It avoids almost all the capital dangers of Cæsarean section, and is not more difficult. The wound is much less extensive, the peritoneum and uterus are not wounded at all, nor the abdominal cavity exposed to danger from infective fluids, cold, or mechanical injury; the danger of hæmorrhage is much less, the shock is less, and the delivery of the child is quite as easy. As compared with craniotomy, this operation is simplicity itself, and the results hitherto obtained much better, being absolutely good for the child instead of absolutely fatal, and for the mother most salutary results have also ensued. Had the cancerous growth in this case been less extensive, so as to leave, say, a passage of three inches in the vagina, and had craniotomy been tried, would any better result have been probable for the mother after the deliberate destruction of the child? I scarcely think so. Craniotomy, when practised with perfectly healthy tissues, is most unsatisfactory in its results for the mother, and I cannot but think that in such a case as this the unavoidable laceration of the diseased tissues which must have ensued, with consequent hæmorrhage, the tediousness of the operation, and the shock incident on it, must have led to a fatal termination in so enfeebled a patient. Even supposing the peritoneal cavity should be accidentally opened, the wound will be far less than in Cæsarean section, and the wound will be situated so as to favour, as far as possible, the escape of any blood, &c., from the abdominal cavity. Considering the easy nature of the operation, the certainty of saving the child, and the strong probability (judging from Dr. Thomas's report) of saving the mother, it is a question how far craniotomy will ever again be justifiable, and whether Cæsarean section should not drop into oblivion. I found my opinion more on the experience of Dr. Thomas and Dr. Skene, than on my own single case. But the demonstration in this case of the truth and probability of what had been accomplished by the distinguished New York surgeons makes me think that the introduction (or revival) of this operation will exercise a great influence on operative midwifery in the future. The child is at present thriving.

Sheffield.

NOTES OF THREE SUCCESSFUL CASES OF HERNIOTOMY.

BY GEORGE ELDER, M.B.,

SURGEON TO THE HOSPITAL FOR WOMEN, NOTTINGHAM.

CASE 1. *Strangulated femoral hernia; operation; recovery.*—On Oct. 10th, 1876, I saw Mrs. D——, aged fifty-five, shopkeeper, in consultation. She gave the history of an old-standing femoral hernia, for which she had worn a truss. Some twenty-four hours before I saw her she had been called to a customer in the shop, and neglected to put on her truss. In lifting a heavy weight she suddenly felt pain at seat of rupture, and was obliged to take to bed. Sickness and abdominal pain soon supervened, and an attempt at taxis was made by Dr. Davison, of Carlton, but unsuccessfully. When I was called in patient was lying on her back, with legs drawn up, incessantly vomiting. Below Poupart's ligament on the left side there was a moderate-sized, tense, and tender tumour, which gave no impulse on coughing. Patient's general condition was fairly good. Chloroform having been administered, I gently attempted reduction by the taxis, and this failing a vertical incision was made through the skin and superficial fascia. By means of the finger Gimbernat's ligament was felt and incised by a probe-pointed bistoury, and the tumour, with its sac intact, returned into abdominal cavity. The wound having been sponged out with carbolised water (1 in 20), the edges were brought together with silk. A compress, a few strips of plaster, and a spica bandage, completed the operation. For four days subsequently sufficient opium was given to quiet the bowels, and the diet was restricted to iced milk and soda-water. On that day the dressing was taken off, and on withdrawal of sutures, union by first intention having taken place, only a few strips of plaster to support the newly-formed tissue, and piece of dry lint, were applied. The bowels were moved on the eighth day by means of castor oil, and on the ninth, with a well-fitting truss, she was allowed to get up and go about.

CASE 2. *Strangulated umbilical hernia; operation; recovery.*—Mrs. H——, aged sixty-two, was admitted into the Women's Hospital on Dec. 19th, 1876. Patient was very fat, and for years had suffered from an irreducible hernia. Twenty hours before admission, in attempting to lift the kettle off the fire, she felt "something give way," and was faint and sick. She at once took to bed, and had warm applications to pained part. On the morrow she was seen by a medical man, who advised removal to hospital. On admission she was found to have a very large umbilical hernia, the skin over which was excoriated in places and attenuated, and pressure on tumour caused pain. The folds of intestine could be felt through thinned integument. Constipation, stercoraceous vomiting, and frequently recurring and severe abdominal pains, were present. The general condition of the patient was not hopeful. She was exceedingly depressed and exhausted. My friend, Dr. Morris, gave ether, and, failing to relieve patient by the taxis, I made a pretty long longitudinal incision through the skin. Feeling with my finger around the ring of integument surrounding the neck of the tumour, I found the constricting part at its lower margin. Into this I made a pretty free incision with a probe-pointed bistoury, after which a part of the contents of the tumour fell back into the abdomen. Believing I had done all that was necessary to relieve the strangulation, and not desirous of putting my patient to the very grave danger of opening the sac and exploring its contents, I brought together the edges of the wound, and finished the operation in the usual way. Although this patient had an intercurrent and pretty severe attack of acute bronchitis, she made a very good, though rather tedious, recovery.

CASE 3. *Femoral hernia in a man; strangulation; operation; recovery.*—"George R——, aged sixty-two, labourer, living at Arnold, was first seen by Dr. Reid on May 14th, 1877. He then complained of intense pain in the left iliac region, frequent vomiting, and constipation. Three days previously, whilst lifting a ladder with another man, the latter let go his hold, and patient received a blow on the left side. 'Giving himself a twist in trying to keep his balance, something gave a 'crack,' and immediately he felt a pain at the site of rupture. He also states that some years before he had a rupture on the same side. On examination, a tense, elongated swelling, irregular in outline, and about the size of a man's fist, was found in the left iliac region and passing down over Poupart's ligament. By the taxis an inguinal hernia evidently was reduced, but there remained still a tumour extending in a line parallel to the inguinal canal for about two inches and a half from and above Poupart's ligament. It was rather of a conical shape, with base inferiorly. Percussion note was dull over it, but gurgling could be heard on pressure at the apex of the tumour, which was tense and hard. The taxis failed to reduce it, and the patient declined further operative interference. However, on the following morning he consented. He now suffered great pain, had frequent stercoraceous vomiting, and was in a state of great exhaustion." At this juncture I was telegraphed for, and concurring with Dr. Reid as to the nature of the case, patient was put under the influence of chloroform. A vertical incision was made over the tumour through skin and superficial fascia, and Gimbernat's ligament incised. This failing to reduce the tumour, an opening was made into the sac, and rather firm adhesions having been broken down by the finger between the bowel and sac, its neck was freely divided. The bowel was deeply purplish, but in no place did it show any signs of gangrene. At the period of incision of the sac-neck there was rather profuse bleeding at the bottom of the wound. This ceased spontaneously shortly after the return of the bowel to the abdominal cavity. The edges of the wound were brought together by silver wire, and a firm compress and bandage were applied. "For two days the patient did well, but on the third he became feverish, had occasional vomiting and general abdominal pain. There was con-

siderable tenderness over the abdomen, and at the seat of rupture there was a distinct and tender swelling. Fearing bleeding had taken place, Dr. Reid withdrew the sutures, and removed from the cavity of the wound several clots. A small vessel at the bottom of the wound, evidently the cause of the mischief, was with difficulty twisted. The wound was then washed out with carbolised oil (1 in 20), and allowed to granulate. Fourteen days after the operation, a large slough, probably a portion of the sac, came away in the discharge. In six weeks from the date of operation the patient was well." The above notes in inverted commas were kindly sent me by Dr. Reid, to whose skilful treatment much of the success was due.

Nottingham.

FATAL CASE OF INTESTINAL CATARRH IN A CHILD.

BY CHAS. E. BARNARD, M.D.,
GOVERNMENT MEDICAL OFFICER.

As death from intestinal catarrh in young children is not very common, I should imagine, I forward, for insertion in THE LANCET, the particulars of the post-mortem examination of a child who had died after only two days' illness with this complaint.

Catherine N——, aged two years and nine months, was seized on the evening of the 23rd August with vomiting and purging, and complained of pain in the stomach. The child had taken nothing apparently to account for the symptoms. In addition to the food vomited, a watery fluid came up. The stools at first were natural, but afterwards became white or milky-looking. The child was very restless, pale, and cold. Its eyes became sunken, its hands clenched, and every now and then it drew its arms up as if in pain. These are the symptoms I was told it suffered from preceding its death. It died on the afternoon of the 25th. The only medicine the child had was a dose of castor oil on the 24th, and some chlorodyne (four minims in all) from a chemist who prescribed this. The child, though, had this medicine only about three or four hours before its death.

As the coroner decided to have an inquest, I made the post-mortem examination. The body was well nourished. The upper lobes of each lung were pink-coloured and perfectly natural. The lower lobe of each was dark-coloured and deeply congested. The right side of the heart contained dark clots and dark fluid blood, while the left side contained decolorised fibrine with only a slight quantity of fluid blood. This clot seemed to run up into the aorta and block up the passages. The stomach, jejunum, and upper portion of ileum were filled with a brown, thick, ropy fluid; more fluid in the stomach than in the intestines. Where intestines were filled with this mucous secretion, the walls were thickened or swollen and of a purplish colour, the vessels being deeply injected. I could find no sign of ulceration in them. The rest of the small intestines presented a great contrast, as they were perfectly natural in colour and texture, and contained only a slight amount of mucus. Could detect no food in the bowel. The large intestine also was natural, but contained a milky-looking fluid, small in quantity, which lined the mucous membrane. The line of demarcation between the inflamed portion of the small intestine and the rest which was healthy, was well marked; as the bowel was not only of a purplish colour, but distended more or less with the thick mucous secretion, while the healthy bowel was paler in colour and somewhat flattened from absence of any contents. At first I imagined there was an obstruction at the spot where the distension ended. This was negatived on further examination. Neither was there any intussusception, which I carefully looked for. Altogether, the amount of inflammation of the bowels, it seemed to me, was too slight to cause such severe constitutional disturbance as to lead to death.

The immediate cause of the fatal termination was, of course, the formation of the large clots in the heart; but why these should form so quickly puzzled me, unless the congestion of the lungs had something to do with it. The child was running about the day preceding its death, and the mother said no appearance of danger was noted till the morning of the day of its death.

The treatment adopted—chlorodyne—had probably something to do with the fatal termination; but of this I cannot be certain, as the child was evidently in a very low state before this medicine was given. A purgative, accompanied with ammonia and alkalies, would be more indicated, in my opinion, than opiates. Milk and lime-water would also have been invaluable.

Gulgong, N.S.W.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum allorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

METROPOLITAN FREE HOSPITAL.

CASE OF UNUSUALLY HIGH THERMOMETRIC REGISTRATION.

(Under the care of Dr. ORMEROD.)

FOR the notes of the following remarkable case, in which the temperature rose to 115·8°, we are indebted to Mr. W. S. Bryne, M.B., senior house-surgeon.

Ann C——, aged thirty-two years, married, and the mother of four children, a pale, weakly-looking woman, nervous and hysterical, was admitted on the night of August 23rd, 1878. It appeared from her history that she had enjoyed very good health up to four months before, when she suffered from an attack of acute rheumatism, for which she was treated in this hospital, having been confined to bed for four weeks. She discharged herself before she was well, with a temperature of 104°. She had never since ceased to suffer from pains in the joints, back, and abdomen, where the pain was most intense, especially in the right hypochondriac region.

When admitted, her face was pale, with a cold clammy perspiration on the forehead; she had a haggard, anxious expression, and complained of intense pain in her side. She was hardly able to walk; and her pulse was feeble and 120. She was immediately put to bed, and hot jars were placed at her feet. Nothing abnormal could be discovered either in the chest or abdomen, nor any symptoms of cardiac disorder or spinal disease; and the joints were neither red nor swollen.

She slept fairly during the night, and expressed herself as better in the morning, except as respects the pain in the right hypochondrium, which she compared to scalding water, and which she begged to have taken away from her. When the abdomen was pressed up and down, a kind of slushing sound was distinctly heard, which very much resembled that emitted from a churn; but the abdomen was free from any enlargement, and the percussion sounds were normal. Urine was free from albumen. A small blister was applied over the right hypochondrium the morning after her admission, she was placed on low diet and given bark and ammonia. For the next three or four days the temperature remained at from 100° to 101°, and then sank to normal, when it was not considered necessary to register it any longer. She still complained much of the pain in the side. Half-grain doses of morphia were given hypodermically every night, but the patient objected to them, as she said they made her head bad. About this time she had a fainting fit, supposed to be hysterical from the many little symptoms of hysteria she showed. She seemed to improve in her general health, though nothing seemed to relieve her side. Poultices and hot fomentations were useless, and iodide of potash and bark, hyoscyamus and valerian, bromide of potassium, and bicarbonate of potash and hyoscyamus were given in vain.

On the 11th of September she seemed flushed and excited; the head was hot, with great throbbing of the temporal arteries; the pulse went up to 140 per minute, and the thermometer registered 107°. Some mistake as regards the latter having been suspected, it was again taken, and registered 105°. The thermometer was placed in the axilla of a

convalescent patient, and registered 99°. Ice was placed on the head. In two hours afterwards the temperature was again taken, when the index ascended to the very top of the thermometer, registering 111·4°. It was again placed in the axilla of a convalescent patient, and registered 99°. Twenty grains of salicylate of soda were given in water every three hours. She got considerably more excited and violent towards night, when she was ordered ten grains of sulphate of quinine, five drops of tincture of aconite, with a little sulphuric acid, in water, every three hours. It was with difficulty she could be persuaded to let the temperature be taken at night, her impression being that the thermometer was a knife that was "going to stick her." It then registered 110°, the pulse being 156.

Sept. 12th.—9 A.M. : She had a restless night, only sleeping for fifteen minutes at a time, but at 9 o'clock this morning she seemed no better; the head was not quite so hot. She was sweating. Pulse 152; temperature 101·2°. At midday the temperature was 102·4°; pulse 128.—9 P.M. : She became very violent. Would not allow the thermometer to be placed in axilla or her pulse to be felt.

On the 13th, at 9.30 A.M., the temperature was 111·4°; pulse 132. The mental condition was the same. The face was flushed. She would not show her tongue. The skin was not sweating. At midday the temperature was 101·5°; pulse 120. At night she would not allow her temperature to be taken.

On the 14th, at 9 A.M., the temperature was 99°; pulse 120. She had slept well. Nothing palpable in splenic region. Would not allow her temperature to be taken at night.

On the 15th, at 9 A.M., the temperature was 103·4°; pulse 132. She was more rational, but passed urine under her. At 10 P.M. a fresh thermometer was tried; temperature was 107·2°; pulse 128. She seemed very much worse, and was very violent.

On the 16th the temperature was 99°; pulse 124. She was perfectly rational, and complained of being cold. At midday the temperature was 104°; pulse 120.—Evening: temperature 103·2°; pulse 124. She had a tolerable night.

On the 17th, at 9 A.M., the temperature was 100°; pulse 120. At midday the temperature rose to 105·8°; pulse 128. At 11 P.M. the pulse was 120; the temperature again rose to 111·4°. She was sweating and feverish. The quinine mixture was continued.

On the 18th, at 10 A.M., the temperature was 105·8°; pulse 140. She had slept pretty well; seemed better. At 11 P.M. would not allow temperature to be taken. Very pettish. Passing urine under her. Complained very much of the intense pain in her side.

On the 19th, at 9 A.M., the temperature was 111·4°; pulse 114. At 11 P.M. a thermometer capable of registering up to 117° was placed in the axilla, and the index ascended to 114·8°; pulse 148. Strangely, she seemed better than she had been in the morning, and did not appear very feverish. Menstruating.

On the 20th she was perfectly rational. The face was flushed. At 9 A.M. the temperature was 115·8°; pulse 120, strong and full. At 9 P.M. pulse 100. A thermometer registering up to 110·4° was tried, the index ascending to the top.

On the 21st pulse 128, the temperature index ascending to the top of the thermometer. Nothing abnormal could be detected in the urine. At 3 P.M. her temperature was taken with another thermometer, and the index ascended to 113°. It being suggested that friction of the arm against the thermometer would cause the index to rise so high, about half an hour afterwards the patient's arm was taken out of the nightdress, and a thermometer of one of the medical gentlemen present was placed in the axilla, with the arm held tight to the side. It then registered 99°. The former thermometer was replaced, and registered exactly the same. At 8 P.M. the temperature was 99·4°; pulse 100. Complained of feeling very cold; she shivered.

On the 22nd the temperature was 100·4°; pulse 130. Evening: temperature 103·4°; pulse 128.

On the 23rd the temperature was 99·6°; pulse 136. She felt better. In the evening the temperature was 101·2°; pulse 120.

On the 24th the temperature was 100°; pulse 180. In the evening the temperature was 100·4°; pulse 114.

On the 25th she would not allow the temperature to be taken, and discharged herself at 3.30 P.M.

Remarks.—As to the height to which the thermometer rose in the foregoing case, very strong and just objections may be raised to the genuineness of the registration. The patient, without doubt, was hysterical, but in the first instance of the high temperature the fact of the pulse being 156 to the minute, and for ten days afterwards varying from 144 to 120, rather precludes the diagnosis being made altogether in favour of hysteria. Again, as regards the thermometers which were used—and they were five in number—they were believed to be correct, the first one, however, was sent to Kew, and has since been verified. Lastly, as to the theory of friction of the arm against the thermometer, as a cause of the index rising so high, no appreciable movement on the patient's part could be detected. It was only with the greatest difficulty that the patient could be persuaded to allow the temperature to be taken, otherwise the thermometer would have been placed in the rectum, which would have cleared away all doubt. The explanation of the occurrence which took place on Sept. 21st is not easy. Whether friction of the arm, so slight as not to be perceptible, can raise the index of a correct instrument to 116° is extremely doubtful, but still the fact remains that in this patient's case the *mercury* rose to 115·8°, without any such urgent symptoms as one would expect from such a temperature.

THE GUEST HOSPITAL, DUDLEY.

A CASE OF PUNCTURED WOUND OF THE SHOULDER-JOINT; RECOVERY WITH PERFECT RESTORATION OF FUNCTION.

(Under the care of Mr. J. HYDE HOUGHTON.)

For the notes of this case we are indebted to Mr. Frank S. Goulder, resident medical officer.

On Monday, July 15th, 1878, a boy, J. D——, fourteen years of age, while at work in a granite quarry, was accidentally struck on the right shoulder with a blunt-pointed piece of iron. He was brought at once to the hospital, and after examination a wound was detected just below the right acromion process, and slightly to the posterior aspect of the joint. It was a ragged wound, a little more than an inch in length. On carefully introducing the finger it was found that there was a small slit into the capsule of the joint, sufficient to admit the tip of the finger, and the smooth articulating surface of the head of the humerus could be made out by manipulating the arm. The bone did not appear to be injured.

The boy was at once put to bed, and kept as quiet as possible. The wound was thoroughly cleaned and well syringed with a lotion of carbolic acid. The sides of the wound were brought together as well as possible by strips of plaster; outside this a dry pad of lint was firmly bandaged. The arm was kept quite immovable by being fixed to the chest. There had been very little hæmorrhage.

The boy passed a comfortable night, and next morning was free from pain. Temperature 99·8°; pulse 80. In the evening the temperature was 100°, and there had been some pain. The bowels were moved once during the day.

On the 17th he passed a rather restless night. The temperature was 100·2°, pulse 90, and the tongue somewhat furred. An aperient was given, and as a slight sero-purulent discharge had oozed through to the bandage and loosened the plaster, and as there were signs of commencing suppuration, the wound was dressed for the first time. Union by first intention had not taken place, so a strip of plaster was brought across the top of the wound, and the bottom left open, after being syringed with carbolic lotion. A pad of dry oakum was placed over this. At 9 P.M. the temperature was 101°; pulse 110; some pain had been felt in the shoulder during the day, and there had been a purulent discharge into the oakum; bowels were freely open.

On the 18th a bagging of matter was found under the skin in the neighbourhood of the wound. Temperature 102°; pulse 120; tongue covered with white fur. The matter was evacuated, and a drain-tube was inserted at the most dependent part of the wound. The cavity was washed out with carbolic lotion. He was much easier during the day, and at 9 P.M. the temperature was 100·2° F.

On the 19th the temperature was 99·6°; pulse 84. The tongue was cleaner. Patient had passed a good night, and had been free from pain.

From this time the wound slowly granulated, and the patient did remarkably well. In four days the drain-tube was removed entirely, and a week later the wound had so

far progressed as to permit passive motion. By the 17th of August the wound had entirely cicatrised, and the boy had complete use of his arm and joint.

GLASGOW ROYAL INFIRMARY.

CASE OF ANEURISM OF THE FEMORAL AND POPLITEAL ARTERIES TREATED BY LIGATURE OF THE EXTERNAL ILIAC; RECOVERY.

(Under the care of Dr. MORTON.)

THE following case is reported by Mr. S. Wellesley Coombs, surgeon's assistant.

Thomas T——, aged twenty-eight, a boiler-maker, was admitted with the following history. Four or five years ago a small swelling was observed just below Poupart's ligament on the right side. Three months before he hurt his left foot, and consequently had to use the right leg most. He then noticed that the lump began to get large, and continued to do so. Five weeks before admission the whole leg uniformly swelled, and was 4 in. larger than the left; but by rest in bed this rapidly subsided. His occupation compelled him to do heavy work in constrained positions. He had never had syphilis, and his general health was very good.

A tumour was situated in the upper and inner part of the thigh, near the centre, and immediately below Poupart's ligament. It measured 3 in. in each direction, and had a very strong distensile pulsation. A short sharp bruit was heard propagated downwards to the middle of the thigh, and the other aneurismal characteristics were well marked. In the centre of the popliteal space of the same limb there was another swelling, half the size of the former, with the same signs, except that a bruit was not audible. The rest of the arterial system showed no signs of disease.

On August 1st Dr. Morton tied the external iliac artery on the right side. This was done by the usual operation. The only noticeable feature was the presence of a large vein which crossed the artery and had to be held aside. The vessel was reached about one inch above its termination, and was here quite healthy. An ordinary silk ligature was passed around it, and the ends cut short. Pulsation in the tumour and in the artery below immediately stopped. The wound was brought together by silver sutures, and a pad of lint and a bandage were applied; limb wrapped in cotton-wool.

The after-treatment of the case may be described in a few words. The wound healed completely by first intention, and at the end of a week was quite sound. No pulsation returned in the tumours, and they gradually grew less. No pus formed, and the slight serous discharge was odourless. The ligature was not seen, but a small superficial sinus remained for a time near the centre of the wound, but this closed up before the patient left the hospital, which he did four weeks after the operation, quite well.

It may be remarked that after the first ten hours the temperature of the diseased limb was always a little higher than that of the sound member, but less than the axilla.

It may interest many to notice that the ligature remains enclosed, and that no antiseptic of any kind was used except the blood.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Spontaneous Cure of Aortic Aneurism.—Organs in Rabies.—Lymphatics in Leprosy.—Early Addison's Disease.—Defect in Septum of Ventricles.

THE ordinary meeting of this Society was held on the 5th inst., Dr. Murchison, President, in the chair. A discussion upon the "spontaneous cure" of large aneurisms, and a communication by Dr. Hoggan upon the changes in the lymphatics in leprosy were the chief subjects of interest.

DR. RALFE showed a specimen of Thoracic Aneurism, spontaneously cured, from the body of a man admitted into the Seamen's Hospital last August. He had been previously in hospital with cardiac disease, and when readmitted was suffering from bronchitis and dropsy. There was a systolic murmur audible over the precordia. He died shortly after admission, and, on examination, the heart was found to be dilated and hypertrophied, weighing 13½ oz., and the mitral valve was incompetent. The ascending aorta was the seat of a pouch, the size of the fist, which was filled up and obliterated by laminated fibrine, the whole clot weighing 7¾ oz., the remaining lumen of the vessel containing a small post-mortem clot. There was ulceration of the inferior surface of the epiglottis, but not of the vocal cords; an elongated ragged cavity, containing pus, at the apex of the right lung, and a few scattered cretaceous deposits in both lungs, but no tubercle. The liver was congested and indurated, its capsule extensively thickened, whilst beneath the capsule of the spleen, and also beneath the capsule of each kidney, were numerous purulent foci, but no abscesses in the substance of these organs. Dr. Ralfe inferred that the patient was syphilitic. He was unable to say how the obliteration of the aneurism was started; most of the arteries were atheromatous and of small size. Possibly the mitral incompetency aided in the consolidation. The pulmonary lesion might be the result of pressure of the aneurism on the root of the lung, as Dr. Irvine had lately shown.

Dr. DOUGLAS POWELL showed a specimen analogous to Dr. Ralfe's. In this case, also of Thoracic Aneurism, the spontaneous cure was no doubt aided by the patient being kept absolutely at rest for about eleven weeks. He was thirty-one years of age, a cornet-player by profession, and had been under observation for about five years. He was admitted into the Brompton Hospital in October, 1875, and kept in the recumbent position, the only medicinal treatment being the administration of morphia to relieve pain. The physical signs consisted of a double shock-sound and a slight systolic bruit, with an extensive area of dulness over the sternum. He left the hospital much improved, and remained in fairly good health for about two years, when, after failing in strength for some weeks, he slowly sank. The specimen showed an enormous thoracic aneurism involving the root of the innominate, the whole sac being filled with laminated fibrin, a small channel only being left; the left carotid artery was also partially occluded by clot, but the right carotid was not involved. Mr. Heath had been consulted as to the advisability of operative interference, but it was decided that no operation would have done any good. The lung in this case had not undergone any destructive change.

The PRESIDENT observed that the subject of spontaneous cure of aneurism was both of clinical and pathological interest. He remembered, when a student, seeing at Edinburgh a patient under the care of the late Professor Bennett suffering from a large abdominal aneurism. It was treated on Valsalva's method, and after death was found to be nearly entirely consolidated; but there was also found a large aneurism in the chest, which had probably formed during the cure of the abdominal aneurism. — Dr. GREENHOW referred to a case which he had brought before the Clinical Society (see Clin. Soc. Trans., vol. ix., p. 109), where a large aneurism of the arch of the aorta was completely filled with laminated fibrin, the spontaneous cure in this case having possibly been aided by the obliteration of the left carotid artery by the aneurismal sac. The patient died from the effects of an empyema in the left side. — Mr. HULKE recalled two cases of aneurism which were under the care of the late Dr. Todd. They were both thoracic, and of large size, and were treated by recumbency and limited diet, with the result of great improvement in symptoms, recession of the tumour, and a cure which was apparently permanent.—Mr. ADAMS said there was a specimen in the museum of St. Thomas's Hospital of an aneurism involving the arch of the aorta and the large vessels, which was filled with laminated fibrine. He referred to the differences between rapid and gradual coagulation as evidenced by the clot being non-laminated, but uniform or fissured in a radiating manner, instead of being deposited in layers; and he believed that sometimes this coagulation led to the death of the patient, from pressure on the trachea being produced, or the tumour becoming consolidated. He thought this had occurred in the case of a well-known member of the profession for whom tracheotomy was performed with the result of prolonging the patient's life. In this case, on post-mortem examination, the aneurism—one involving the arch of the aorta, innominate and carotid arteries—was

filled with clot, which had evidently been rapidly deposited; it was a decolorised mass of fibrine which had split into fissures, and was not in layers.—Dr. MORRISON said he had lately examined a specimen of thoracic aneurism which had perforated the chest wall, causing absorption of several of the ribs, the part outside the chest being as large as the intra-thoracic portion, and in this case there was considerable consolidation. The patient had been confined to his bed some time before death.—Dr. GREENHOW could not agree with Mr. Adams that if an aneurism were spontaneously cured death must follow. In the case he had just referred to, the aneurism was completely cured, but death was due to empyema. — Mr. ADAMS believed that in the particular case he had mentioned, the consolidation of the tumour had led to the fatal issue.—The PRESIDENT pointed out that an aneurism in the situation described would produce those effects, whether consolidated or not.—Dr. POWELL said it would be very discouraging if Mr. Adams's view were the correct one, for the whole treatment of aneurism was aimed at obtaining coagulation, although it was not correct to say that any aneurism could be actually *cured*. He could conceive of too rapid consolidation being attended with ill results, and that this would be one of the risks arising from ligature of the large vessels in cases of thoracic aneurism; still recent experience had shown that this treatment was attended by benefit rather than the reverse.—Mr. HULKE could not understand how an aneurism plugged with fibrine could exert more pressure on the surrounding parts than one which was constantly expanding with every systole. On the other hand, fibrine in coagulating tends to contract and to diminish the size of the tumour, and this contraction of the clot was shown by the radiating fissures in it of which Mr. Adams had spoken.—Dr. COUPLAND referred to a specimen of spontaneous cure of an abdominal aneurism in the museum of the Middlesex Hospital, which during life appeared as a solid tumour in the abdomen. Death was due to uræmia, from chronic renal disease. He instanced two cases of prolonged duration of life in thoracic aneurisms which had appeared externally, but did not press upon vital parts.

Mr. GODLEE showed a recent specimen of Colloid Cancer of the Mamma, with secondary infiltration of the axillary glands, which had been removed that morning by Mr. Lister. He remarked that this form of cancer was not very common in the breast.

Dr. CRISP exhibited the Brain, Spinal Cord, and other organs from a Dog which had died from Rabies. The dog had been bitten in common with some ten or twelve other dogs by a rabid dog three weeks before its death. Some of the animals had become rabid, and had been killed. The animal from which the specimens were taken showed signs of the malady after sixteen days' incubation; it looked wild, and refused food and drink; then showed signs of ill-temper, and its voice became changed, approaching a howl. There was excessive salivation, but no convulsive seizure, and the dog was constantly biting at anything that came in its way. Then tremors and subsultus tendinum occurred, and it died on the third day after the onset of symptoms. Up to the time of death it was unable to stand, and continued at intervals feebly to attempt to bite; the pulse was quick, and the skin became cold; urine was freely voided. Dr. Crisp remarked that the symptoms of rabies vary much in the dog, some exhibiting far less ferocity than others. A small but not ulcerated cicatrix was found on the nose. The brain and spinal cord appeared very vascular, and were placed in absolute alcohol for examination by the Morbid Growths Committee. The tongue was not enlarged, showed no vesiculation, nor were the salivary glands enlarged. The lungs were healthy, as were the abdominal viscera. The heart contained black blood, which presented normal microscopic characters. In hydrophobia in man the period of incubation was generally longer, and dysphagia and nervous symptoms were more pronounced. Dr. Crisp mentioned that hydrophobia had greatly increased in this country of late years, the return for 1838 showing twenty-four deaths from that cause; 1862, only one death; 1871, fifty-six deaths; 1874, sixty-one; and in 1876 there were fifty-three deaths. He had fed two fowls on the flesh of this animal, with as yet no results.—Mr. HULKE asked whether the urine or the kidneys were examined; for in a case of hydrophobia he had seen in King's College Hospital about the year 1849, there was renal hæmaturia for some hours before death, and acute desquamative nephritis revealed on post-mortem examination. This patient had been kept under the influence of chloroform continuously for about fourteen hours, and it was questioned at the time whether this had anything to do with the production of the renal affection. A few days later he heard of another case at Charing-cross Hospital, and accordingly went to the post-mortem examination, in order to ascertain whether the same condition was met with in that case. He found the urine in the bladder to contain blood, and that there was nephritis also in this case. He referred to this, because he had not observed that it was a condition frequently recorded. He thought it had been mentioned by some German authority.—Dr. DUCKWORTH said there was albuminuria in a case of hydrophobia which had been under his care.—Dr. CRISP, in reply, said that both kidneys were congested; but the urine was not examined.—Dr. RALFE pointed out the importance of distinguishing between tetanic symptoms in dogs and those due to rabies, and thought it possible that the conditions were frequently confounded. Many people bitten by dogs exhibited mild tetanic symptoms which were not of grave import, and he therefore urged the careful clinical study by veterinarians of all cases of assumed rabies. Albuminuria might naturally be expected in such a disease as hydrophobia or tetanus.

Dr. HOGGAN exhibited a series of microscopical specimens showing the condition of the Lymphatics in Eastern Leprosy. The specimens, obtained from fresh sections, had been prepared by various reagents, gold, silver, osmic acid, &c., the subject of the disease having given directions that when he died his body should be placed at the immediate disposal of Dr. Hoggan. He was born in India of Irish parents, was vaccinated in India, and at the age of ten years came over to England. The disease had been in progress for sixteen years, the case being a well-marked instance of tubercular leprosy, and before death the senses of sight and smell had gone, and other special senses much impaired. The preparations showed well the definite crenated borders of the lymphatic epithelium, and showed that the walls of the lymphatic vessels were healthy, but they were more dilated than usual, especially at the valvular pouches. From the atrophy of the tissue of the cutis, the lymphatic plexuses had come to lie in one plane (as they do in the fœtus before the ingrowth of connective tissue separates them), so that these plexuses appeared to be more numerous than normal. The skin was reduced by atrophic changes to one-half its normal thickness, but yet remained highly elastic, and of the consistency of soft leather. In the twenty-seventh and twenty-eighth volumes of the Transactions, Dr. Vandyke Carter had described in leprosy accumulations of masses of micrococci within lymphatic spaces, especially around nerves. Dr. Hoggan had not been able to find any such changes within lymphatics, but he had met with large collections of yellowish cells accumulated round the walls of veins, and these he believed were the bodies which Dr. Carter describes as being lodged within lymphatics. To himself they appeared rather as out-wandered leucocytes, which, from some change in their protoplasm, had lost a certain amount of vitality, and had hence accumulated around the vessels, and become altered in colour and size. He believed this diminished vitality in the leucocytes to be due to the same cause as the atrophic and ulcerative changes in the skin—viz., withdrawal of nerve influence; and he instanced the results of section of the sciatic nerve in producing ulceration of the limb in support of this. Dr. Carter had spoken especially of changes occurring in the lymphatic sheath of nerves, but Dr. Hoggan had not yet been able to confirm the statement that nerves were possessed of lymphatic sheaths.—Dr. TILBURY FOX said the case was a true case of tubercular leprosy, and he regarded Dr. Hoggan's paper as an admirable contribution to our knowledge, correcting as it did some false notions which prevailed about the pathology of the disease, whilst clinical facts bore out the interpretation given. Dr. Carter's paper was unsatisfactory because of the lack of details as to the modes of preparation employed.—Dr. COUPLAND inquired as to the primary lesions of the nerves to which these changes were due. Had Dr. Hoggan found swellings of nerve-trunks, as described by many observers—for example, Virchow? and if so, of what nature had he found them to be?—Mr. BAKER suggested that the specimens and drawings should be referred to a special committee.—Dr. HOGGAN consented, and added that it was his intention to forward a copy of his paper and drawings to Dr. Carter for his criticism and suggestions. He had only dealt in this paper with the condition of the lymphatics, but he might say that the changes in the nerves,

as in every other tissue, in leprosy were produced by the replacement of the tissue by gelatin.

Dr. GOODHART exhibited microscopical specimens and drawings showing the changes in the Suprarenal Capsules in early Addison's Disease. The first was from a man thirty-six years of age, with old disease of the sacrum, double psoas abscess, and lardaceous viscera. The right adrenal presented at one extremity a small, hard nodule, beginning to caseate. The other was from a child five years of age, where, with tubercle in various organs, there was a mass in one adrenal. The two cases illustrated two of the groups of affection with which Addison's disease was associated—spinal caries and tubercle. The minute changes in the capsules consist of a fibro-cellular growth implicating the stroma of the organ, and leading to degenerative changes in the cells. It was noteworthy that in the case where it would be thought the capsule would have been involved from the outside—viz., by extension from the spinal disease—there was no distinct evidence of the change having started, except in the organ itself. Possibly the disease starts in changes in the cell columns, followed by the interstitial change. Both the cases, being examples of very early change, presented no symptoms of Addison's disease whatever.

Dr. COUPLAND showed a specimen of Defect in the Ventricular Septum, the aperture, large enough to admit a No. 12 catheter, being seated in an unusual site—viz., between the anterior and left posterior aortic cusps on the left side and below the posterior cusp of the pulmonary valve on the right. The anterior aortic cusp bounded it above, and was for one-half of its extent unsupported, so that it bulged slightly, and was thickened. The margin of the orifice was thick and fibrous, and a fibrous patch occurred on the infundibular wall at a point opposite to the orifice—i. e., immediately below the left anterior pulmonary cusp. This patch of thickening was probably due to the eddy of the blood against the wall, and a slight thickening above the centre of the anterior mitral cusp might be due to a similar cause. The specimen was obtained from the body of a man about forty years of age, who was brought dead into hospital from hæmoptysis in advanced phthisis. In absence of clinical facts, and in spite of the want of any other malformation, Dr. Coupland thought the defect was congenital in origin.

The Society then adjourned.

MEDICAL SOCIETY OF LONDON.

The Malarial Fever of Cyprus.

AT the meeting of this Society, on the 4th inst., Dr. Sedgwick, Vice-president, in the chair, a paper was read by Dr. SULLIVAN on the Peculiar Malarial Fever of Cyprus, in which he gave a very concise description of his travels through and about the island, of which he spoke in glowing terms. He then entered upon a consideration of the origin of malaria in general, and next spoke of the particular form or type of the malarial fever in Cyprus, instancing cases which fell under his own care. He concluded by presenting a very favourable view of the sanitary prospects of the island.—Sir JOSEPH FAYRER said that in countries which had become depopulated, barren, and unhealthy, through misgovernment and the destruction of vegetation, as in Cyprus, fever is sure to make its appearance, the fever being due to malaria alone. There were different types of malarial fever—e. g., the fever of Peshawur differs from that met with in Bengal, and again the fever in Bengal differs from that of the Deccan. He was convinced that in the East some cases of epidemics described as typhoid fever were really due to malaria, and he had often insisted upon the occurrence of malarial fevers resembling typhoid in their symptoms, and he pointed out the importance in a sanitary aspect of making this distinction.—Surgeon-Major BLACK insisted upon the actual existence of "ground fever"—i. e., fever resulting from emanations from earthy soils or even from rocky surfaces, as opposed to marsh emanations. Fevers owing their origin to such a cause are more of a remittent type than that due to marsh miasm. In Algeria, troops employed in digging trenches have contracted remittent fever, and the same thing has occurred in our colonies. He was of opinion that tropical fevers may be of a mixed type, the intermittent being combined with the remittent form, but that the one did not pass into the other. He did not think there was any scorbutic element in Cyprus fever, and, after dwelling upon the sources by which the system may be infected with marsh poison, he suggested that it might be well to construct barracks in Cyprus on poles, as was done at Singapore, so as to be above the level of the miasmatic fog.—Dr. DE HAVILLAND HALL asked for information as to the state of the spleen in Cyprus fever.—Dr. C. T. WILLIAMS thought that the character of the soil had a considerable influence in the production of malaria. The soil of the Campagna of Rome is very light and porous, and it very soon absorbs and gives out moisture. One reason for the unhealthiness of the Campagna might be found in the fact that some water still finds its way through the unused aqueducts, and is not drained off again.—Dr. SULLIVAN, replying to a question by Dr. Hall, said that the fatal case he had seen was that of a patient who was already weakened by two attacks of fever; he was ill fourteen days. In the severer forms of Cyprus fever, which begin with the hot stage, the liver and stomach appear to suffer more than the spleen; but in the less severe attacks, where there is a cold stage, the spleen, as in ordinary ague, is greatly increased in size. He only saw two cases of what appeared to be enteric fever. A malarial fever may simulate enteric fever, but the converse does not hold good.

Dr. GILBART SMITH showed a specimen of Aneurism complicated by Empyema, but the discussion was deferred.

PROVINCIAL MEDICAL SOCIETIES.

BRADFORD MEDICO-CHIRURGICAL SOCIETY. — The opening meeting was held on Oct. 1st, when an address was delivered by Dr. BURNIE, the newly elected President. A large number of members and practitioners in Bradford and its district attended. He took for his subject the Present State of the Medical Profession. The profession, he said, was not merely in a growing state, but in a transitional one, and not only so in its scientific aspect, but also in its political or social aspect. Dealing with the latter chiefly, Dr. Burnie referred to the constitution of the profession sixty-three years ago, when the College of Physicians had the sole right of practice in London and within seven miles, and medical graduates of Oxford and Cambridge were the only legally qualified physicians in the counties. He described the governing body of the College at that time, and its licentiates; the general practitioner being regarded as a sort of tradesman, beginning life as an apothecary's apprentice. Metropolitan surgeons and the better kind of country practitioners were then members of the College of Surgeons; whilst many provincial physicians held foreign or Scotch degrees. Dr. Burnie then gave a description of the various legislative measures and the rise of the University of London, which had brought about the gradual improvement of this state of things. The Apothecaries Act of 1815 was the starting-point of those changes, which were further improved by the Medical Act of 1858. Many other changes are still demanded, such as the reform of the Medical Council, which must either contain members elected by the profession generally or be wholly a State body. Dr. Burnie deprecated the conjoint scheme, but advocated a State registration examination, to test the thoroughness of the qualification held by the candidate. Turning to the question of "the title of doctor," he said that the kernel of the difficulty lies in the fact that in our profession the title has come to represent medical rather than academic knowledge—practical competency rather than learning; and after dwelling upon this subject, and on the recent extension of degrees to women by the London University, and the recognition of the status of the dental profession, Dr. Burnie concluded an admirable address with a few appropriate remarks on the advantages of medical association.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.—At the meeting held on September 25th—Dr. Henry Fripp, President—Mr. Francis Richardson Cross was proposed for membership.—Mr. F. POOLE LANSDOWN exhibited a Large Ovarian Cyst, and the patient from whom it had been removed in April of last year. In June, 1878, she was delivered of a seven-months child, and there had been a considerable ventral hernia since that occurrence. A discussion followed, in which the following took part: Mr. Ewens, Mr. Atchley, Mr. Dobson, Mr. Michell Clarke, Dr. Aust Lawrence, and

Dr. Fripp.—Mr. J. EWENS exhibited a patient cured of Tibio-tarsal Disease by the insertion of potassa c. calce into the joint. The child was six years of age. The disease had been of twelve months' standing, and was cured in about six weeks.—Dr. ELLIOTT exhibited a Hair-pin and a Calculus which had formed around it, and which had been removed from the bladder of a girl eleven years of age. Mr. Augustin Prichard, Dr. Aust Lawrence, and Mr. Ewens commented on the specimens.—Dr. SHINGLETON SMITH exhibited the Bladder of an old man who had died of Hæmaturia from Villous Growth. For twelve years there had been occasional hæmorrhage. Death took place suddenly from syncope, induced chiefly by granular degeneration of the cardiac muscular fibre. The bladder was distended with clot, and a small villous growth, about the size of a hazel-nut, projected from the posterior wall above the liver connecting the orifices of the ureters.—Dr. Ed. Fox alluded to the extraordinarily chronic character of many of these growths. When they run an acute course it would generally be found that the ureters were affected, and secondary kidney affection followed.—Mr. Michell Clarke pointed out a way in which a terrible catastrophe might arise from such a nævoid growth thus described. He remembered a case in which the passage of a catheter had induced similar symptoms to those which had occurred spontaneously in the case now reported. In any future case he would cut into the bladder, as in median lithotomy, remove the clot, and introduce styptics.

Reviews and Notices of Books.

Sanitary Examinations of Water, Air, and Food. A Handbook for the Medical Officer of Health. With Illustrations. By CORNELIUS B. FOX, M.D., F.R.C.P. Lond., Medical Officer of Health of East, Central, and South Essex. Pp. 508. London: J. and A. Churchill.

IN the preface to this work, Dr. Fox informs the reader that he has kept steadily in view, in writing the several chapters, the following objects—namely, first, to treat the three subjects to which the work relates as a physician who studies them in connexion with health and disease, and not as an analyst who mechanically deals with chemical operations and arithmetical calculations; and, secondly, to render such details respecting examinations of water, air, and food, as fall within the province of the medical officer of health, so free from technicalities and all cloudy and chaotic surroundings as to enable anyone who possesses the average chemical knowledge of a physician to teach himself by the aid of this *vade mecum* of the health officer.

Dr. Fox has been eminently successful in achieving these objects, and although he modestly professes "to offer suggestions and hints," rather than to put himself forward as a teacher of the medical officers of health of the country, there are few of these officers we imagine who will not welcome this work as a sound and trustworthy guide on the complicated matters to which it relates. Moreover, for medical men, medical students, and sanitary workers generally, this handbook fills up a hiatus which much needed filling. In the discussions, which have lately occupied so much of the attention not only of professional men but of the public generally, upon the application of particular methods of chemical analysis in matters relating to public health, and especially in regard to water in its sanitary aspects, the uninitiated in the higher mysteries of analysis have become bewildered by the contentions of different teachers; the essential object of the analysis has too commonly gone to the wall, and chemistry as a trustworthy aid to the sanitary worker has been discredited. Chemists have trusted too much and too absolutely to their power of analysis, and it has needed some very conspicuous blunders or egregious inconsistencies to arouse them to a sense of this. On the other hand, outsiders have, perhaps, been too profoundly impressed by, or have misapprehended the source of, the blundering or inconsistency. At any rate, there was need for a clearer knowledge than was accessible in existing works of the conditions under which chemical manipulation becomes available for sanitary work, and its true position in such work. Now, it is the peculiar value of Dr. Fox's book that it gives this knowledge, and teaches clearly and compendiously what the just relations of chemical analysis are to sanitary work, and what is involved in the just interpretation and application of the analysis. The difficulties hitherto have rested mainly, or at least most conspicuously, with water analysis, and here the advantages of Dr. Fox's method of dealing with his subject are naturally most markedly displayed. But every part of the work manifests the results of that large experience of the subjects treated which might be expected from a gentleman who, while an accomplished chemist, is, at the same time, a sound physician, and who has had a wide practical acquaintance with the duties attached to the post of medical officer of health.

It would be idle to attempt to criticise in any detail a work of this sort which abounds in particular instructions. Dr. Fox treats in succession of the sanitary examination of drinking water, of air, and of food. His style is clear and concise. In the section on air he devotes a part to the influence of meteorological variations on states of health and disease, and to the methods of observing meteorological conditions for medico-sanitary purposes. This part of the book, we apprehend, will have a special interest for medical men, independently of the interest which attaches to the particular object of the work. We heartily commend this handbook to all concerned in sanitary labours.

Report on Typhoid or Enteric Fever in relation to British Troops in the Madras Command. By Surgeon-General C. A. GORDON, M.D., C.B., Principal Medical Officer, British Forces. Fcap., pp. 167. Madras, 1878.

THIS is an official report by the medical officer in charge of H.M. British troops in Madras. It professes to be an inquiry "into the alleged prevalence of enteric or typhoid fever as a specific pythogenic or filth disease among the British troops" in that command. It has been drawn up for the purpose of communicating the views of the writer, "as one of the few remaining army medical officers of protracted experience in India," on this subject, "for the information of his Excellency [the Commander-in-Chief, Madras Presidency], and for that of his Grace the Governor in Council." From this point of view we cannot but think that the Report had better been left unwritten, or, if it were deemed necessary to write it, that it should have assumed a form in which it would have been more intelligible to these non-professional officials and less offensive to the officers of the Medical Department.

The Report commences with an attempt to summarise the views of the principal recognised authorities with regard to the conditions held by them to constitute the disease, "with the object, as it were, to obtain a standard of comparison." This occupies twenty-two pages of the Report, and fully justifies the author's own description of it as "in some respects tedious, nor by any means free from tautology." We should be greatly surprised if the high officials, for whose information it was prepared, rose from the perusal of it—if they read it at all—any wiser or better informed on the subject than they were before. We do not intend to follow the author through the "tedious" paragraphs on the subject, but we cannot pass without notice one argument which he adduces against the existence of enteric fever in India. At page 11 the author says:—

"Sir James Annesley, in his great work, describes inflammation and ulceration of Peyer's glands as occurring in cases of ordinary climatorial fevers of India, and in enteritis. Some Indian writers of the present day, notwithstanding the investigations of their predecessors, appear to consider the existence of such an appearance as of itself sufficient evidence of the existence of enteric fever, whatever may

have been the symptoms during life. In these remarks, then, we find one set of authors definitely asserting that certain morbid appearances are invariably present in and distinctive of enteric fever; other writers stating that similar appearances not only occur in diseases other than enteric fever, but as results of poisons, mineral and animal; while the fact is rendered apparent by observations already quoted, that similar lesions have frequently been observed in fatal cases of Indian climatorial fevers of non-specific character."

It must be remembered that the works of Annesley and the older medical officers in India, referred to in a subsequent part of the Report, were written before enteric fever was recognised as a distinct and specific disease. It appears most illogical to assert that because certain post-mortem appearances, which are considered characteristic of enteric fever, were, before its recognition, described as being frequently met with in what were then deemed the ordinary fevers of the country, therefore enteric fever does not exist in India. If this argument were worth anything, it would also go to prove the non-existence of enteric fever in England, and of all those specific diseases which the advance of science and improved means of investigation have enabled pathologists to separate from the previously ill-defined groups of cases in which they had been included.

Having obtained what he considers a "standard of comparison for abstracts of cases," the author proceeds to an examination of those entered in the journals of the medical officers as "enteric fever." He gives "a careful analysis of all the cases recorded in hospital books as of enteric or typhoid fever" at the different stations in the command, extending over various periods from 1871 to 1877. These amounted to 175, of which 54 proved fatal. The author states that of this number, "if my views are correct, only 7 approximate to the standard of typhoid fever, according to British authors; while in not one instance has the disease been traced to pythogenic causes." From a study of the abstracts of cases, in many instances "meagre and indefinite," the author overrides the diagnosis made at the bedside of the patient, and calmly prefers his own opinion thus formed to that of the medical officer who treated the case and saw it in all its stages. We are not informed of the names of the officers, except in a few instances, but we have every reason to believe that among them were men quite as competent to diagnose and to treat disease as Dr. Gordon; indeed, some of them, from having studied after the distinction of enteric fever had been made, were more likely to be correct in their diagnosis than himself. We do not mean to say that in some instances the diagnosis may not have been incorrect, but we cannot believe that of so many cases occurring over a period of several years, at different stations, and observed by a number of medical officers, many of them men of considerable experience, all, or anything like all, were erroneously diagnosed, or that Dr. Gordon's comments upon the abstracts justify such a conclusion. We shall not follow his example, and form a judgment upon the diagnosis from the perusal of the abstracts, but we may remark that we differ from him in the opinions which he has expressed with regard to the nature of the disease in many of the cases recorded. We must leave it to the officers whose accuracy is impugned to refute his conclusions, and we trust that they may have an opportunity given them of doing so in an official form. Thirty pages are devoted to answers to certain questions, circulated by the principal medical officer among the officers doing duty under his orders, on the sanitation of barracks, stations, and their vicinity, of which we shall merely remark that for any practical value they have, as bearing upon the question under discussion, we do not consider them worth the labour bestowed upon their preparation.

We trust that this Report is not to be taken as an example of those usually furnished by the administrative officers of the Army Medical Department, for, if it is, we think the executive officers have good reason to complain. Their case-books are overhauled, and abstracts from them made by an officer who has never seen the cases, and they are not afforded an opportunity of supplementing or explaining anything. The inspecting officer having arrived at the conclusion that his subordinates have been entirely wrong in their diagnosis, instead of reporting it to their professional head, submits his views to the Commander-in-chief and the Governor in Council, and in his report to these high authorities makes such a remark as this:—"I trust I may be permitted to solicit the attention of my brother medical officers in the army to the importance of treating cases of disease, of whatever nature, according to well-established principles, instead of on that of simply administering particular remedies for the mere reason that they are for the time being vaunted as *specifics;* for in the treatment of Indian fevers there are no such things." We cannot but think that Dr. Gordon has incurred a grave responsibility in imputing to the officers of the Army Medical Department the habit of treating cases not according to the recognised principles of medical science, but empirically—for we can attach no other meaning to this paragraph,—and in making a public charge against the medical officers doing duty under him of gross and culpable ignorance of their profession, based upon a review of the records of cases, not one of which he had seen himself. We presume that a copy of this Report has been sent home to the Director-General, and we have formed a very erroneous estimate of Sir Wm. Muir if he permits such statements to be made respecting the professional work of the officers of the department without taking some notice of it, and affording those who are thus reflected upon an opportunity of clearing themselves, officially and publicly, from the imputation thus cast upon them.

It has been a very painful task to us to write in such terms of the work of an officer of Dr. Gordon's standing and service, but we have felt it to be an imperative duty, in the interest of our professional brethren in the army, to speak thus plainly. The question of the prevalence of enteric fever in India is one of great importance, and we trust that some medical officer well qualified for the task—and we believe there are many such in India—will undertake an exhaustive inquiry into the subject.

REPORT
ON THE
DRAINAGE OF THE TOWN OF WINDSOR.

MORE than four years have now elapsed since we took occasion to report on the drainage systems adopted at Windsor Castle and at Eton. These places, in common with others situated on the banks of the Thames, claim a special interest, inasmuch as the Thames Conservators have, since 1870, been struggling with these various upland authorities, persuading them here, and compelling them there, to divert their sewage from the Thames, and so cease to pollute one of the most beautiful rivers in England. Windsor Castle is of course an important establishment, and it is almost equally desirable that Eton, with its juvenile population, should be provided with all possible means for the maintenance of health. Most of our readers will remember that in both cases the "separate system" (of which the late Mr. Menzies, Deputy Ranger of Windsor Park, was the sponsor), was adopted, and up to the present time, as far as we have heard, the result has been in every respect favourable.

The lines of Windsor, or rather of its corporation, have

not, as to drainage matters, fallen in pleasant places. It is not an unmitigated source of satisfaction to be surrounded with Crown property, and in this respect the Royal borough has been placed at a great disadvantage. It is literally hemmed in with royal estates. Up to the year 1848, as we glean from the *Windsor Express*, cesspools were universal in the town. In 1850 a sum of £6000 was spent in sending the sewage into the river, and that plan has existed up to the present time. But when the Thames Conservancy Act of 1870 came into operation, Windsor, its Castle, and the neighbouring village and college of Eton were, naturally enough, among the first places attacked. The advocates of Windsor assert that the Conservators have treated them badly, inasmuch as the riparian towns should, in consequence of being compelled to perform these costly operations, have received some pecuniary assistance from the Conservators. No aid was, however, indicated in the Act, and no aid, of course, was given. Colonel Ewart was consulted, and recommended the "separate system," as carried out at Eton and at the Castle. A great many other schemes were discussed and successively abandoned, and the local board, having subjected themselves to penalties that, if strictly enforced, would, up to the present date, amount to more than £150,000, called in Mr. Hawksley, obtained a site for the present sewage works, and, at the recommendation of that eminent engineer, adopted the system of Mr. Fritz Hillé, who has already constructed works at Aldershot, Edmonton, Tottenham, Southborough, Taunton, and other places. The population of Windsor is estimated at 12,000 persons, and it is calculated that the works will cost about £40,000. This sum includes a main sewer three miles in length, to conduct the entire sewage from the town direct to the land, and it also includes the cost of a plot of five acres on which the sewage is to be treated, as well as the plant, machinery, inspector's house, &c. A further plot of seventeen acres is about to be bought, in order to secure the more effectual purification of the effluent before it is discharged into the Thames. The works were commenced early in 1875, were completed about a month ago, and were formally opened by Mr. Dewe, the Mayor of the borough, on the 14th ult., in presence of the corporation and many of the influential inhabitants of the town and neighbourhood. The annual cost of maintenance may, according to price of chemicals, &c., vary from £500 to £1000 per annum.

We visited the works on the 1st inst., and, in the absence of Mr. Hillé, the engineer, were accompanied by Mr. T. E. Bowes, the resident superintendent. They are, as is indicated above, situated about three miles from the town, and the connecting sewer is constructed of brick as far as the Navigation Cut, under which it is continued to the works by iron pipes. The works proper consist, as in most sewage-disposal arrangements, of a large reception-tank, where solid material, including dead dogs, spoons, brushes, and other household articles, are eliminated by the interposition of a coarse grating. Mr. Hillé's chemical compound is said to consist of a mixture of lime, common gas-tar, and several salts mixed in certain proportions, and very considerably diluted with water. It is proper to remark here that at the time of our visit the quantity of water required for mixing the chemicals was so insufficient as to influence the quality of the effluent very materially. Two mixing cylinders are provided, each five feet in depth and seven feet in diameter, the compound being kept continually agitated by "stirrers" set in motion by the steam power provided for general purposes. The mixture thus prepared is then delivered by means of a six-inch pipe into a pumping-well, which measures twelve feet by nine feet, and is twelve feet deep from the top of the grating. It here meets the sewage, which is pumped in, and as the six-inch supply-pipe for chemicals discharges about four inches below the suction of the pumps, the two fluids are thoroughly incorporated, and are ultimately discharged into large open-air tanks. The impurities are either solidified and form a sludge at the bottom, or are oxidised by contact with the air, the effluent water passing away and ultimately discharging itself into the Thames. But it is intended, as soon as the seventeen acres are acquired, to pass all the effluent water through this land before finally sending it into the river, in order to satisfy what are evidently looked upon as the ultra-fastidious requirements of the Conservators. The process as thus seen is, of course, very simple, and is but one variety of precipitation processes, assisted to a very partial extent by irrigation, or downward filtration. The exact nature of the compound used to form the sludge is Mr. Hillé's patent, but it appears to require for its success a very liberal supply of water. The sludge thus formed is dug out from time to time, and placed in pits that are being made at the further end of the ground. The patentee says that in from six to twelve months this sludge gradually, by oxidation and other changes, becomes converted into a sort of loamy humus, is inodorous from the beginning, and has very fair fertilising properties. But he does not pretend at first to promise great things on this score. We are, of course, at one with Mr. Hillé in the opinion that the great and main consideration is to get rid of the sewage completely, and in such a manner as not to create a nuisance either in our own quarters or in those of our neighbours. If the process can be worked at a profit, or even made to pay its own expenses, so much the better. We may, for example, cite the case of Edmonton, where a market-gardener is now utilising some of the effluent to manure his watercresses. He has taken a small plot of land close to the sewage-works, has laid it out in longitudinal beds, and, by means of pipes, irrigates under and between with the water after it has left the precipitating tanks. We are assured that the results have been remarkably successful, and that in consequence the beds are about to be considerably extended. Mr. Hillé has arranged to take charge of the Windsor works for three months, after which the Corporation, representing the Urban Sanitary Authority, will finally take them over and assume all responsibility.

These works (to those concerned in the general question of sewage utilisation, and anxious, as all are, to know which is really the proper process to adopt) will be specially interesting, because their administration can be watched side by side with those of Eton, where, as was remarked above, the separate system is being carried on under the superintendence of Messrs. Ripley and Simmonds, successors to the late Mr. Menzies. The Rev. J. Wolley-Dod, chairman of the Eton Board, to whom we have on several occasions been indebted for much useful information, reports to us this week that up to the present time he considers the separate system, as carried on at Eton, a decided sanitary success. There appear to be some constructive deficiencies, which might, however, occur anywhere as the result of indifferent or careless work, but as from 80,000 to 100,000 gallons of sewage are pumped daily, it may be taken that the abstracting process from the town is very fairly secured. The soil of the farm (the accounts of which form a separate charge) is, after treatment with the sewage, still very light and poor, and though the vegetables &c. grown upon it are good, very little is left for rent when the produce is sold and all working expenses are paid.

We shall take an opportunity of reporting upon Mr. Hillé's process at Windsor when it has been some months in operation. For it is only by taking these systems one by one, and describing and watching the practical results, that we can hope at all to arrive at anything like the settlement of a very vexed but a very important question. For we must remember that it is one which must before long be applied to the largest population in the United Kingdom, represented by the Metropolitan main drainage, which, as now administered, pollutes and spoils for navigation the most commercially important as well as one of the prettiest rivers in England.

MEDICAL SOCIETY OF THE COLLEGE OF PHYSICIANS IN IRELAND.—At a meeting held on the 30th ult., the following office-bearers were elected for the ensuing year:—President: Henry Head. Vice-Presidents: John J. Banks, Dominic J. Corrigan, Alfred Hudson, James Little. Council: J. Hawtrey Benson, J. Magee Finny, Thomas Fitzpatrick, Samuel Gordon, T. Grimshaw, Reuben Harvey, Thomas Hayden, Henry Kennedy, Stephen M. MacSwiney, J. W. Moore, John M. Purser, Walter George Smith. Honorary Secretary: George F. Duffey.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 9, 1878.

WE have so long and strenuously argued against the practice of housing lunatics in private asylums kept for profit, that the indications which prevail of a rising flood of opinion adverse to these establishments cannot but be treated by us as eminently satisfactory. The *Pall Mall Gazette* has taken up the subject, and is treating it in a series of articles which, in spite of some misconceptions of fact in respect to details, bring out clearly and forcibly the salient faults of the system it is desired to reconstruct or supersede. Our contemporary is mistaken in assuming that public asylums must necessarily be *large*, or that it is deemed expedient that they should be so. The very evils deplored, and the neglect deprecated, are almost inseparable from the system of throwing the insane together in crowds or classes, and that arrangement is especially injurious to the interests of the individual patient when the "herd" in which he lives is a large one. The *Pall Mall Gazette* strikes the key-note of reform when it insists that the doctor should bring personal influence to bear on his patients; but this is clearly impossible in establishments so extensive and densely populated that if the physician devoted only one minute to each person under his care, it would take him more than ten hours to pay the daily visit. Nor is the difficulty to be surmounted by increasing the number of medical officers, because it is, and must always be, the chief physician to whom the lunatic looks as the arbiter of his destiny, and it is by the personal influence of this authority acting as a moral therapeutist, his case should be treated with a view to cure. In practice it would be better to break up any large establishment into sections, and place each under a separate medical control, than to multiply "assistants" whose authority and influence are qualified by the existence of a superior superintendent, to whom patients and attendants may appeal. We accept the general views and opinions propounded by our lay contemporary on the subject of private asylums: the appropriate remedy will not, however, be found to be the transfer of cases to "large" institutions, but rather the reconstruction of the smaller houses on the basis of a State proprietary, with salaried officials having no pecuniary interest in the reception or retention of patients.

The objection we take to asylums for the insane conducted by private enterprise and as a commercial venture, is the same that was, at last successfully, urged against "sponging-houses"; it is not consonant with the requirements of public prudence to entrust the power of imprisonment to persons who use it for gain. Those who argue on the other side of the question protest that we are not justified in comparing private asylums with prisons. The only failure in the parallel strengthens our contention, for in the case of the prison or sponging-house some public proof of the validity of claims to imprisonment had to be made out before the victim was incarcerated, whereas an alleged lunatic may be placed in an asylum without any better authority than the certificates of two medical men, neither of whom may have any acquaintance with mental disease; and, which makes the matter worse, while few professional men would risk a final opinion on an obscure case of physical disease after a single visit to the bedside of a patient, the judgment in a case of lunacy must needs be given with prompt despatch, and generally after one brief inspection! We do not believe there are many recent instances of wrongful detention in private asylums, because public opinion has of late years exerted a powerful influence upon the conduct of these establishments, and they are felt to be, so to say, existing on sufferance; but the system is wholly unsafe, and, looking to the notice which it has attracted and the efforts made to abolish it, the fact that it is prolonged is altogether inexplicable. Again and again it has been shown that an arrangement which makes the discharge of a patient an occasion of loss to an individual proprietor, or small firm, must be opposed to the interests of "cure." The reply to this argument has been that it pays best to cure rapidly and make out a reputation for prompt and successful treatment. To this we rejoin that the contention would have greater force if, as a matter of observation, the "friends" of lunatics exhibited any great anxiety to have these poor creatures rapidly discharged. Unhappily, the facts tell the other way! When a person, particularly in the class commonly sent to the better sort of asylums, has become so objectionable in the family circle that he or she is placed under certificates, there is generally a strong feeling of reluctance to receive the patient back again. Setting aside the sinister motives which sometimes exist for desiring that the inmate of an asylum shall not be discharged, there is an undoubted prejudice against persons who have been once deranged, and it takes a great deal of convincing evidence to persuade those who have signed an order for incarceration that the malady is actually cured until such time has elapsed as may seriously damage a weak or sensitive mind. Is it reasonable to expect that during this period of detention the proprietor of a private lunatic asylum will not flag in his endeavour to expedite the removal of a patient who is a source of revenue to his establishment? It does not argue any great selfishness on the part of the asylum-keeper to assume that he will be quite content to continue his kindly care of the patient as long as the "friends" may allow him to remain. It is idle to look at this question in any other light than that of profit and loss; and in proportion as the keeper of an asylum is convinced that he treats his patients fairly will he be unable to perceive any urgent reason why they should be too hastily removed on recovery, especially as his establishment must be maintained, and the loss of a certain amount of revenue is sure to be felt. Here again we are met with a contradictory assertion. It is alleged that the number of patients waiting for admission to well-conducted private asylums is always so great that no motive for detaining inmates can possibly exist. We must take leave to doubt whether this can be always the fact, or the margin of numbers specified in the licence of houses beyond the "average number resident" would not be so wide as it is; but, waiving that point, and looking to the percentage of cures effected in these establishments as compared with the deaths, and bearing in mind the circumstances above mentioned—namely, that "friends" are not generally

impatient for the discharge of inmates,—we must be permitted to doubt if this crowding at the doors of an asylum is always the recommendation we are asked to assume it to be. That there are deservedly popular asylums we do not dispute, but, giving this consideration the fullest weight, it is impossible not to feel that, for the many at least, it is too much to expect the proprietor of a boarding establishment—in which light a private asylum may be fairly regarded—to seek to diminish the number of his pensioners; and any question of discharge must, in point of fact, be influenced by this consideration, whether the circumstance be admitted or denied.

We have repeatedly urged that private lunatic asylums throughout the country should be placed on the footing of public institutions; and we have shown how this may be done by giving the present proprietors negotiable bonds in guarantee of the money invested, and paying the officers out of a central fund, thus making them public servants and responsible to the State. If this were done, other needful reforms would follow, and in process of time the asylum system of this country, and afterwards probably that of our neighbours across the Channel—which has recently given just cause of offence to philanthropists,—would be purged from grave abuses, and reconstituted on a basis assuring safe custody, kindly care, and earnest curative treatment for the insane. We commend this suggestion to the consideration of our lay contemporaries, in the persuasion that it deserves their support.

THE action of arsenic is a subject for investigation of much importance. Its therapeutic value is so well established as to render it one of the most reliable agents we possess for effecting certain objects. Indications are not wanting that the range of its therapeutical employment may be considerably extended, and there is reason to hope that a more accurate study of its physiological action may render its use more precise in those diseases in which it sometimes does good, but more often fails.

A series of papers have been lately published in VIRCHOW'S *Archiv*, which contain an account of an elaborate research into some particulars of its action by Dr. A. LESSER, of Berlin. The first point investigated is its action on the heart of the frog. It is known that the effect of a large dose of arsenic is to retard the action of the heart, and to finally arrest it in diastole. Although the frog lives on for some ten minutes, no stimulus will reawaken the cardiac contraction, even though the heart is excised. SKLAREK found nevertheless that the irritability of the muscular tissue of the heart persists, and hence he concluded that the arsenic acts by paralysing the motor ganglia of the heart. LESSER has observed that the form of the cardiac contraction is changed by the arsenic; the contraction of the ventricle becomes irregular, so that it undergoes peculiar changes of form during its systole. The interval between the contraction of the auricles and of the ventricles becomes unequal, and ultimately that of the auricles ceases long before that of the ventricles. Almost to the last a slight touch [on the auricle at the opening of the sinus will provoke a local contraction, and a stronger stimulation one of the whole heart. Hence LESSER infers that the ganglia of REMAK lose their irritability before the ganglia of BIDDER. This conclusion was in part corroborated by a further series of observations on the isolated ganglia regions, which showed further that the paralysis of the ganglia of REMAK is preceded by a transient increase in their irritability, the result of which is, if the heart is separated from the central nervous system, to cause an initial increase in the frequency of its contractions. When its central connexions are undisturbed, this increase is not observed, in consequence of the arsenic causing a simultaneous stimulation of the vagus, by which the effect on the ganglia is counteracted. An increase in the frequency of the heart's action has been noted in man as an effect of small doses of arsenic; but doubt has been raised whether it is not of merely psychical origin. This increased frequency of the pulse was, however, found by LESSER to be a constant effect in warm-blooded animals of the intravenous injection of small doses, and he found further that the acceleration is not accompanied by any noteworthy increase in the arterial blood-pressure. Medium doses cause first an increase, and then a decrease in the heart's action, while large doses decrease it from the first. In the latter case the pressure in the aortic system falls immediately, and the more rapidly the larger the dose. If arsenic is injected subcutaneously the increased frequency of the pulse is a regular though very brief consequence, but otherwise the phenomena agree perfectly with those which follow the injection of arsenic into a vein. The increased frequency of the pulse is found to be the result of two conditions—a diminution of the tonic action of the vagus, and an augmentation of the action of the cardiac ganglia. The diminution in the frequency of the heart's action which is produced by larger doses is due to a depression of the action of the cardiac ganglia, and in some cases an increase in the tonic action of the vagus. In some animals, as in the frog, it was found that the muscular tissue of the heart does not lose its irritability. That of the ends of the vagus in the heart, tested by the electrical stimulation of the trunk of the vagus, is first increased by the action of arsenic, then is lowered, and finally extinguished. On the other hand, the action of the accelerator nerves of the heart is in no way affected by the arsenic. Nor can any effect be ordinarily traced upon the centre for the vaso-motor nerves, upon those nerves themselves, or upon the muscular tissue of the vessels. For the stimulation of the vaso-motor centre an amount of arsenic is necessary which cannot reach it when the arsenic is injected into a vein; it is necessary to inject it directly into the carotid artery. Even then, however, stimulation of the centre is the only effect; paralysis can never be obtained.

A very marked effect on the adjacent respiratory centre was also observed to be produced by arsenic. It appears to be due in part to the direct action of arsenic upon the centre, and in part to the stimulation by it of the ends of the vagus in the lungs. The direct effect upon the centre is demonstrated by the fact that it is to be observed even after section of the trunks of the vagi; and the effect on the pneumogastric in the lungs is proved by the fact that when these nerves are intact the effect on the respiration is greater than when they are divided. Larger quantities of arsenic extinguish the irritability of the respiratory centre, but less rapidly when the vagi are intact than when they have been previously divided. The initial increase in the respiration is not very great, for the respiratory movements,

although increased in frequency, are diminished in extent. A very interesting experiment corroborates the direct action of arsenic upon the centre. A certain strength of the induced current applied to the central end of the right vagus of a rabbit produced constantly a certain acceleration of respiration, never an arrest. Some minutes after the subcutaneous injection of fifteen milligrammes of arsenic per kilogramme of weight of the animal, precisely the same stimulation of the vagus caused an arrest of the respiratory movements, due to tetanus of the inspiratory muscles. Forty minutes later, when the second stage of poisoning had set in, the same mode of stimulation with a much stronger current failed to produce the effect. If the same quantity of arsenious acid is brought into relation with the nerve-centres more rapidly than by the method of subcutaneous injection, the effect is more intense, and of a paralysing rather than a stimulating character. The diminished action of the respiratory centre occurs immediately after the introduction of the arsenic. The objection may, however, be raised to these experiments that the disturbance of respiration is possibly the consequence of changes in the gaseous contents of the blood, resulting from the retardation of the heart's action and of the movement of the blood. But if the carotid on one side and the jugular on the other be opened immediately after the effects of the poisoning by arsenic are manifest, it will be seen that there is still a marked difference in the colour of the arterial and venous blood; and this, in conjunction with the fact that the heart continues to act strongly for some minutes after the respiratory movements have ceased—as evidenced by a needle through the wall of the thorax, or a manometer introduced into the carotid artery,—seems effectually to meet the objection. Hence, although arsenic certainly kills cold-blooded animals by its action on the heart, it does not, as SKLAREK thought, kill warm-blooded animals in the same way, the heart being in them the *ultimum moriens*.

The effect upon the temperature was carefully observed in these experiments. It was found to present a remarkable depression, proportioned in degree to the duration of the intoxication. In one experiment, which lasted 230 minutes, the fall was from 38·7° to 28·9° Centigrade; in another, lasting 130 minutes, it was from 38·5° to 31·2°; and in a third, lasting 52 minutes, from 39·9° to 36·3°. The fall was more rapid in the first half of the poisoning than in the second. The amount of the arsenic administered had little influence on the rapidity or degree of the depression.

The action of arsenic on the intestinal canal is of considerable importance, on account of the special effect which is produced on these organs in acute poisoning. Peristaltic action is increased, and even a tetanic contraction of certain parts of the intestinal wall, in consequence of the irritation of the ganglia contained in the wall; for either or both of these phenomena may be produced by the local action upon isolated portions of the intestine. The effect occurs immediately after the injection of the poison, and long before any influence on the heart or respiration is produced, and cannot, therefore, be ascribed to the diminution in the amount of oxygen in the blood. Neither section of the vagus nor of the splanchnic nerves has any influence on the result.

Besides this effect on the muscular coat, gastro-enteritis is, as is well known, a constant phenomenon of poisoning by arsenic. BÖHM and UNTERBERGER asserted that on this account arsenic is more poisonous when administered by the mouth than when injected into a vein; that the smallest fatal dose by the mouth is not fatal if injected. LESSER is unable to confirm this conclusion. He found it most lethal by injection, as are most poisons. The croupous membrane, which is often present in the stomach and small intestine, was only found when arsenic in the form of powder was given, never when a solution was employed. The false membrane always contains large quantities of crystals of arsenic, whereas they are few or absent in that part of the mucous membrane which is the seat of a simple catarrhal inflammation. Doubt has been thrown by recent observers upon the old opinion that arsenic in the blood is excreted by the intestinal mucous membrane, but this view is confirmed by LESSER, who has found that an appreciable quantity can be extracted from the contents of the alimentary canal, although one which bears a very small proportion to the amount injected, and not enough to account for the inflammation which is found, and which must be due also to the presence of the poison in the vessels and lymphatics of the intestinal wall.

Another point examined by LESSER is the influence of arsenic on the irritability of the striated muscular fibres and of the cerebro-spinal nerves. The method of investigation was by observing the minimum strength of current required to excite the divided gastrocnemius in two frogs, one poisoned by arsenic, the other unpoisoned. It was found that the arsenic causes a rapid diminution in the nerve irritability, and the fall is greater during the first than during the second half of the toxic period. The effect is not confined to the nerve-trunk, for other experiments seem to show that there is a similar and still more rapid action upon the termination of the nerves in the muscles. From other experiments LESSER infers that the irritability of the muscular fibres themselves is lowered by the poison in just the same manner as that of the nerve, but he does not appear in these to have excluded with sufficient care the possible participation of the intramuscular nerve-filaments. Investigations on the influence of arsenic on the sensitive nerves, and their terminations in the spinal cord, show that immediately after the injection there is a brief increase in reflex irritability, somewhat later a diminution, and, finally, a disappearance after the arrest of the heart's action. These effects are produced by a direct action on the spinal cord, since they appear at the same time in a leg which is exposed to the action of the poison as in one which is excluded from the action by ligature of the artery.

THE address delivered by Mr. W. H. MICHAEL, Q.C., at Cheltenham, as President of the Public Health Section of the Social Science Congress, goes a long way to make this sort of meeting tolerable, if not actually justifiable and useful. The address was a thoughtful and eminently practical discussion of certain questions touching cardinal points of our public health legislation and administration which can scarcely fail to exercise an important influence. Mr. MICHAEL would abolish the business of parliamentary tinkering by having official draughtsmen employed who should be responsible for the construction of Acts, when Parliament had

come to agreement respecting the principle of clauses and amendments, so that they were consistent with themselves, and not sieves that legal ingenuity could traverse with ease. He would have metropolitan sanitary law consolidated and brought into closer accordance than it is at present with the general sanitary law of the kingdom; and he had the audacity to assert, regardless of Gog and Magog, of district boards and of vestries, that the principles underlying the maintenance of metropolitan public health differed in nowise from those concerning other town populations. Nay, going further, he argued that the health of rural populations involved the same essential principles in its sanitary aspects as the health of town populations, and he would have the law so modified as to do away with the mischievous and most arbitrary distinctions, as regards fundamental conditions of health, which exist in the present state of the sanitary law between urban and rural districts, and would have our public health law reduced to one dull, uniform, general level of efficiency. He rightly protested against the system of bye-laws as at present carried out, which has become so favourite a method of modern legislation, arguing that matters of general application—such as building, ventilation, drainage, &c.—should be provided for in general statutes, and not relegated to bye-laws, or, in other words, made partial in their application by the law itself. It may be necessary to have bye-laws to meet special local circumstances, and at present some of the most important and most general elements of sanitary administration and work can only be dealt with by bye-laws, but these bye-laws can at the best be only of restricted application.

Mr. MICHAEL rightly perceives that a preliminary step to such an amendment of the sanitary law as he would have must be a reconstitution of the districts in which sanitary authorities should work. Until this be done, and the difficult question of local rating placed on a sounder foundation, any such fundamental changes in our sanitary legislation and administration as he would have cannot be looked for. The question of County and Conservancy Boards in the future scheme of sanitary administration received Mr. MICHAEL'S attention; and the empyrean of central administration was even scaled. He is so little impressed with the present position of the Government in sanitary administration, and with the action of the Local Government Board, still in early childhood, that he urges a remodeling of the Central Sanitary Administration, under the form of a Ministry of Health and Justice. As to a Ministry of Health, we apprehend he will carry all persons competent to judge of the present condition of Central Sanitary Administration with him. But it is just at this particular point that Mr. MICHAEL unkindly leaves us in the lurch. He contemplates a Ministry which shall give "intelligent guidance, counsel, and direction to inexperienced local authorities." But it is just this *intelligence* which, judging from the example we have of the Local Government Board, we cannot predicate of the Central Government. How is this difficulty to be got over? A Ministry of Health—that is to say, a Ministry constructed for the express and avowed purpose of dealing with public-health administration—would meet the formal part of the difficulty; but how is intelligence to be infused into it? It was hardly fair of Mr. MICHAEL to elude this cardinal question. Our own impression is that, after recent experiences of Central Sanitary Administration, it would be highly injudicious for the Legislature to assume intelligence of any remodeled Central Health Organisation constituted on the same basis. Any reconstruction which is effected must, we think, be of such a nature as to make sanitary administration and legislation an integral part of the policy of the Ministry for the time being. The Sanitary Acts should be modeled, even at the risk of great bulkiness, so as to eliminate as much as possible all necessity for bureaucratic interpretation. If this can be done, there may be a possibility of avoiding in the future, and in respect of further legislation, the frustration of the objects of the public health legislation of which the Local Government Board has been guilty.

SIR DOMINIC CORRIGAN has addressed a communication to the members of the British Medical Association through their own journal in which he embodies his views of changes required in the constitution of the Medical Council. Sir DOMINIC remarks on the anomaly and injustice of a Medical Council composed of representatives who represent everybody but the practitioners of the country, the said practitioners being the only persons called upon to provide the funds by which the Council is worked. These funds, as our readers know, have reached a capital sum now of about £30,000. The annual expenditure is about £2000.

Sir DOMINIC maintains that the Council is too large, and he proposes to reduce its proportions with a free hand. He would bring the numbers down from 24 to 9. The sweeping reduction of numbers is effected in this way. He would dispense with Crown members. He thinks that the Crown's claims would be recognised sufficiently by giving to the Crown the nomination of a President, and to the Privy Council the power of vetoing the bye-laws and regulations of the Council. The Universities, now represented by eight members, are henceforth to be represented by only three: one to represent those of England, Ireland, and Scotland respectively. Sir DOMINIC—himself the representative of a University—says, with blunt severity, of his proposal: "On mature reflection, I think we avail ourselves sufficiently of University intelligence, and give the Universities sufficient influence in naming three members of the Council as their proportion." But he deals out evenhanded justice; he has the same measure for the Corporations as for the Universities. "I would limit the members returned by the medical and surgical Corporations or Colleges and Apothecaries' Hall to three members—one for England, one for Ireland, and one for Scotland." There would then remain three seats for the representatives of the active working members of the profession, one for England, one for Ireland, and one for Scotland, elected by the registered practitioners in the respective divisions of the kingdom.

It is a terrible satire on the Council that one of its own and one of its first members should suggest such a wholesale alteration in its constitution—one involving so much change and so much disfranchisement. The honesty of Sir DOMINIC'S proposals is more apparent than their practicability or even their prudence. It is one thing to disfranchise the Crown, and the Universities, and the Corporations, by a stroke of the pen, and another to pass a Bill through Parliament to the same effect. But even supposing the thing were pos-

sible, we have to consider whether it would be prudent. In other words, whether the nine members provided on Sir DOMINIC'S scheme would be able to do the work which falls to be done under the Act of 1858, *plus* the work that accrues to the Council under the Dentists Act and that will be likely to accrue to it under a similar measure looming in the distance for regulating the education and registration of midwives. Sir DOMINIC'S letter will do good by raising the general question.

SIR JAMES INGHAM, following, as was natural, the reading of the Food and Drugs Act adopted by the Lord Chief Justice of England, and the Justiciary Appeal Court of Scotland, has decided that the selling of adulterated milk to a sanitary inspector is not an infringement of the Act, inasmuch as the sale is not made "to the prejudice of the purchaser." The objection is evidently fatal to all prosecutions under the Act, inasmuch as every purchaser is required by Clause 14 to tell the vendor, after the purchase is completed, that the sample has been bought for analysis. The sample must then be divided into portions, one of which may be retained by the vendor. All this is evidently inconsistent with "prejudice to the purchaser." Local authorities may therefore save themselves the trouble and expense of prosecutions which cannot be successful and the dishonest tradesman may adulterate in peace.

This astounding collapse can, we presume, only be met by a fresh Act. During the three years that the present Act has been in force many convictions have been obtained under it and many fines imposed. We are now told that all these convictions were wrong, and that every tradesman who has been fined has been mulcted illegally. Nevertheless, the public, including all honest tradesmen, have cause to be grateful to the weak, inefficient, and ill-drawn Act of 1875. For, in spite of all difficulties, adulteration has at last been attacked by law with a certain amount of success, and it has been made abundantly evident that legislative repression of the frauds of tradesmen and manufacturers can be effected without injury or serious inconvenience to those who carry on their business honestly.

A new Bill must of course be introduced when Parliament meets. If advantage is taken of this opportunity to make other improvements in the old Act, in conformity with the principles so often advocated in these columns, the blunder now found to be so perplexing will result in good.

Annotations.

"Ne quid nimis."

TEMPERANCE versus TOTAL ABSTINENCE.

A VERY valuable contribution to one of those questions which of all others afford common ground of discussion for medical men and the laity—viz., the alcohol question—is contained in the current number of the *Contemporary*. As a rule, the discussion of medical topics by medical men in non-professional organs of opinion is to be discouraged, but if any subject affords an exception to this rule it is that of drinking, for it is only by the authoritative instruction given in such ways that we can hope for any real progress in temperance. The first of the group of articles on the subject is from the able pen of Sir James Paget, who discusses the contrast of temperance with abstinence mainly from a sociological point of view. He points out that we have as yet no adequate means of comparison of the health of total abstainers with that of moderate drinkers, and that all the statistics relied on for such a comparison are invalidated by the divergent conditions of those subjected to observation from those of ordinary life. In a very able argument he bases his advocacy of a moderate use of alcohol upon the universal experience and custom of civilised communities; on a comparison of the mental, physical, and social conditions of nations who do and who do not drink, or who drink little or much; and also refers to the argument from heredity, the absence of any physical deterioration in the present generation as a race due to the moderate drinking of our progenitors. He points out, too, that physiological experiment cannot be allowed to countervail the results of common observation or practical experience. Sir James does not, however, propose to say what is moderation, or to define the limits of temperance.

Dr. Brunton follows with a paper dealing mainly with the physiological action of alcohol, which is a model of popular exposition of the present state of scientific knowledge upon the subject. It is unnecessary for us to enter upon the points which he takes up, as they are well-known to medical men, but their lucid yet racy statement will be of great value to those who are less familiar with the facts. The essay of Dr. Bernays, though less scientific, abounds in valuable suggestions; it must be borne in mind, however, that though an eminent chemist and analyst, Dr. Bernays does not speak as a medical man.

We regard it as of favourable omen that such efforts should be made to enlighten the popular mind as to the rational use of alcohol. We have persistently contended for its moderate use as opposed to total abstinence, and we believe that this careful and forcible expression of opinion by men of such weight and eminence will disabuse many of the wrong notions which have been encouraged.

THE UNIVERSITY OF CAMBRIDGE.

THE present year has been an eventful one for Cambridge. On the 1st of March last extensive changes in the statutes of the University were proposed by the Council of the Senate. Many of these have been accepted, but the new statutes have not yet been passed to carry them into effect. These changes are mainly in the direction of increasing the revenue of the University by contributions from the colleges, and the limitation of the period over which non-resident fellowships extend. In addition to these important changes, the University is to be congratulated on the progress made in providing additional accommodation and other facilities for study and research in the various departments of science and learning. Such extension was urgently needed in the departments of anatomy and physiology, with the larger number of natural science students that are now attracted to the University. Although during the past year there has been an increase in the number of natural science students, there seems to be a slight pause in the long-continued annual increase in the number of matriculations generally. This the Vice-chancellor, Dr. Atkinson, views with a certain feeling of misgiving in regard to the financial position of the University, which depends so largely on the fees and other dues received from graduates and undergraduates whose names are on the University books. We cannot think, however, the check to the annual increase will be more than temporary. It is no doubt an outcome of the general financial depression at present existing, which, whilst affecting all classes, bears with greater severity on the upper middle class, whose sons form the bulk of the undergraduates at

Cambridge and Oxford. Moreover, parents may this year have felt some hesitation in sending their sons to a university whose statutes were undergoing alteration till the nature of the changes were known. We believe that when the commercial gloom has passed away and the new statutes are finally settled and framed the University will reap the full benefits of its endeavours to place itself more fully in accord with "the altered conditions of modern life and its exigencies." Lastly, both the University and the inhabitants of the town are to be congratulated on the revival of energy on the part of the Cambridge Improvement Commissioners, who have gone so far as to ask Mr. Bazalgette to draw up a scheme of drainage for the town. We have frequently pointed out how disgraceful the present drainage of the town is, and how urgently a new system is required. We hope the present activity of the Commissioners will not be allowed to flag until a complete and efficient system of drainage is constructed for the town.

A CIRCULAR SYSTEM OF HOSPITAL WARDS.

AT the recent meeting of the Social Science Congress at Cheltenham, Professor John Marshall communicated a paper in which he advocates a circular form for the wards of hospitals. Professor Marshall's paper, and remarks thereupon by Mr. Percival Gordon Smith, an architect of the Local Government Board, have been published, together with plans which enable the reader to grasp the ideas of the author. The advantages claimed for the circular system are as follows:—

1. Freedom of frontage to all quarters of the compass.

2. Readiness of access of light and air, with regard to which the circular ward, it is said, "cannot be surpassed."

3. That a given number of feet run of wall, if arranged in a circle, affords a greater amount of wall-space for beds, and encloses a larger area than if arranged in any other way. The cubic space is, of course, proportional, heights being equal, to the area enclosed. These points, which are obvious, are illustrated by means of diagrams, "showing the relative sizes of a circular and an ordinary oblong ward for beds, with similar wall-space per bed. The circular ward has 191 ft. 6 in. run of external wall, a diameter of 61 feet, and an enclosed area of 2922 feet; while the oblong ward has 210 feet run of wall, a length of 81 feet, a width of 24 feet, and an enclosed area of 1944 feet."

4. With regard to ventilation, "a circular ward would offer highly favourable conditions for the complete attainment of this cardinal consideration. ..... Horizontal currents of air would sweep more readily and uniformly around the external surface of a circular than an oblong building. For the purpose of *natural ventilation*, every such horizontal movement of the outer air would become available from whatever quarter or side it came. Proper openings systematically arranged in windows or walls, and acting as inlets or outlets, as the case might be, would admit air, or allow it to escape, on every side, the fresh air being conducted beneath, above, or between the beds. For artificial ventilation, a shaft, or shafts, would find a suitable place in the centre of the ward, and therefore equi-distant from the circumferential inlets. ..... The difficulties attendant upon ventilating a long ward would disappear. Sharp draughts across the ward, down draughts on the walls opposite and relatively near to open windows, deficiency of movement of the air with certain winds, and the unequal or opposing extracting power of two or more fireplaces, would not exist."

5. With regard to warming, there would be this advantage: that every patient would be equally distant from the fireplaces, and the fire-places being central would facilitate the movement of the air for artificial ventilation.

6. The complete isolation of circular wards would be easy to accomplish.

7. The internal administration of circular wards would be very easy.

Mr. Marshall maintains that not only would circular wards be an advantage in themselves, but that pavilions in the form of ward-towers would be found to accommodate themselves admirably to any area upon which it was proposed to erect a hospital.

Mr. Smith concurs with Mr. Marshall in the advantages claimed for the circular system, and although he admits that as regards cost the circular would exceed the longitudinal, he seems to admit that the extra advantages would be worth paying for, and that the circular system would lend itself to the production of admirable architectural effects.

The question raised by Mr. Marshall is a very serious one, and we trust that his paper may be the means of eliciting opinions from those who have directed their attention to the important subject of hospital construction.

The expense of hospital construction has, of late years, undergone a steady increase, and the adoption of the Marshall system would involve a further rise in the cost per bed. If the advantages be worth paying for, the increased cost should be encountered without demur; but since it is possible that a steadily increasing cost may ultimately paralyse the hand of charity, it behoves us to be very sure of tangible sanitary advantages before sanctioning methods which involve an increase of cost.

SMALL-POX IN LONDON.

IN the week ending last Saturday only three deaths from small-pox were registered in London, and all these were of unvaccinated children under five years of age; but the hospital returns afford unmistakable evidence that there is an increasing prevalence of the disease in the metropolis, similar to that which took place about this time last year. The number of small-pox patients in the Metropolitan Asylum Hospitals, which had declined to 91 on Saturday, Oct. 19th, rose successively to 97 and 112 at the end of the two following weeks; indeed, the patients on the 2nd inst. were as numerous as they had been in the middle of September last. The new cases admitted to these hospitals, which had been but 8 and 21 in the two preceding weeks, further rose to 34 in the week ending last Saturday. Of the three fatal cases of small-pox registered last week, one of an unvaccinated child, aged four years, occurred in the Metropolitan Asylum Hospital at Hampstead, to which it had been admitted from Holborn. The two other cases were of infants, aged five months and nine months respectively, in Deptford and Bermondsey, both occurring in private dwelling houses; in the former case it is stated that vaccination had been postponed on account of the child's state of health. That six out of the seven deaths from small-pox registered in London during the two weeks ending Saturday last should have been those of unvaccinated children, while it affords the strongest evidence of the danger of neglecting or postponing vaccination, especially at the present time, also supplies proof of the imperfection of the machinery by which the Compulsory Vaccination Act is supposed to be carried out. Hundreds of children, besides these six in the past two weeks, have during the last two years fallen victims in London to this sham compulsory vaccination system, and yet the Local Government Board sees no reason for inquiry or investigation. Can we wonder that anti-vaccinators point to the remarkable fatality of small-pox in London in recent years in support of their assertion of the uselessness of vaccination, and that they refuse to see, what is so plain to us, that it is due to the neglect and inefficient performance of vaccination in London? The Registrar-General, in his last Weekly Return, publishes some facts relating to a fatal case of small-pox registered in the

week ending 26th October. It was of an infant, aged eleven months, the medical certificate relating to which gave no information as to vaccination. On inquiry, the certifying medical practitioner informed the Registrar-General that the deceased infant (who was born in the same house in which it died) had not been vaccinated, and that another unvaccinated child in the same family, aged eight years, is now suffering from small-pox, while not one of the six other children, who have all been vaccinated, has been attacked. Taking this infant of eleven months as a typical case, we should like to know how it escaped the beneficent operation of the Vaccination Act, and was thus left to die of small-pox.

THE CONTAGIOUS DISEASES ACTS.

"THE Right Honourable J. Stansfeld, M.P., and Mrs. Josephine Butler, of Liverpool," with the other energetic "ladies and gentlemen," who have assumed the *rôle* of agitators for the repeal of the Contagious Diseases Acts, have been orating in Dublin, after placarding the city with the sort of literature in which these strangely perverted people delight. It may be, at first sight, surprising to read the statement that "several unmarried ladies" were among the speakers at a private meeting, of clergymen and others, held the day before the quasi-public conference; but such is the demoralising tendency of this movement that individuals of both sexes, who would blush to take part in the controversy this subject always engenders, are carried away by their enthusiasm, and make an exhibition of themselves which all sensible folk must seriously deplore. We do not doubt, much less desire to asperse, the motives of the "ladies and gentlemen" engaged in this uncanny strife with law and common sense, but we regret that the passion for agitation has not found a more agreeable and creditable outlet than that which, in its present manifestation, amounts to a public scandal and disgrace. We will not discuss the question with the partisans of this movement; the facts tell so clearly and conclusively against their argument that it would be idle to expend time or space on its refutation. We have already repeatedly shown how the case against these beneficent Acts has been "got up." It is vain to appeal to the modesty or good sense of the "ladies and gentlemen" to whose proceedings we allude. If anything could rouse them to reason perhaps the sort of treatment the agitators received at the recent meeting at Dublin might be expected to produce the desired awakening. The marvel is that any decent woman should be found willing to endure the contumely this graceless fight against public opinion must entail.

PUBLIC BATHS AND GYMNASIUMS.

THE Commissioners of the Public Baths and Washhouses for Paddington have taken a very sensible course in converting their large plunge-bath, 100 ft. in length and 50 ft. in breadth, during the winter months, into a gymnasium. The baths were established about four years ago, and have proved a great success, for since the opening they have been used by 1,066,212 persons, of whom no less than 252,058 were females. During the winter months, however, the attendance has been comparatively insignificant, as the people did not use cold water baths, and it was felt that the space afforded by the area of the plunge bath might be profitably utilised during the slack bathing season. Consequently, Mr. Forsyth introduced a short Bill last session, which gave the Commissioners the required power. We hail with pleasure all efforts made to popularise and extend habits of systematic exercise and training among the population of our large cities, and though, perhaps, we may regret the financial necessity for closing so useful an institution as the swimming bath during the winter months, the substitution of a gymnasium considerably lessens the regret. For we feel assured that the people who make use of the training afforded by this institution will speedily overcome, as they become healthier and stronger, their repugnance to cold water, and the plunge bath will eventually have to be kept open all the year round. This fact the Commissioners will have to keep in mind, and we hope to learn in a few years that both a swimming-bath and gymnasium coexist under the same roof without alternating one with the other. The two ought certainly to go together, for it is of little use being able to swim if the body be at the same time out of condition, the muscles flabby and the circulation weak. The strongest swimmer, under these circumstances, would speedily succumb to cramp. One of the most encouraging features in respect to these baths is the number of female bathers that have been attracted to them. Swimming is an exercise admirably suited for women, giving free play to all the muscles of the body, without throwing a strain on any one set, whilst its general adoption will greatly diminish the tale of deaths from boat accidents with which we are now annually distressed; to say nothing of the influence habits of cleanliness thus acquired will have on the purity and morals of the poorer class and their households.

BODY-SNATCHING.

DURING the consideration, in the House of Commons, of the report of the Committee on the Anatomy Bill of 1832, Lord Macaulay, in defending the measure against the attacks of those who alleged that it was designed to benefit the rich at the expense of the poor, made use of the following argument: "What are the evils against which we are attempting to make provision? Two especially: that is to say, the practice of burking, and bad surgery. That a man has property, that he has connexions, that he is likely to be missed and sought for, are circumstances which secure him against the burker. The more wretched, the more lonely any human being may be, the more desirable prey is he to these wretches (the burkers). It is the man, the mere naked man, that they pursue. Again, as to bad surgery, that is, of all the evils, the evil by which the rich suffer least and the poor most. If we could prevent disinterment, if we could prevent dissection, if we could destroy the English school of anatomy, if we could force every student of medical science to go to the expense of a foreign education, on whom would the bad consequences fall? On the rich? Not at all. As long as there is in France, in Italy, in Germany, a single surgeon of eminent skill, who is addicted to dissection, that surgeon will be in attendance whenever an English nobleman is to be cut for stone. The higher orders in England will always be able to procure the best medical assistance. If the education of a surgeon should become very expensive, if the fees of surgeons should consequently rise, if the supply of regular surgeons should diminish, the sufferers would be, not the rich, but the poor in our country villages, who would again be left to mountebanks and barbers, and old women and charms and quack medicine." This and the rest of his Lordship's short but conclusive argument we commend to that section of the Bradford board of guardians who advocated the rescinding and repealing of the recent resolution adopted by the board, "that the bodies of unclaimed persons dying in this workhouse should be given up for the purposes of anatomy." The "conscientious" objections of the originator of this motion were no doubt sincere. There are many persons who have objections, as conscientious as they are decided, to the pursuit of all science, and especially of medical science. It is idle to remonstrate with such persons, or to attempt to overcome their scruples; they are the victims of a deep-rooted idiosyncrasy. So far they have a claim on our sympathy. But it is otherwise with those who

suggest "that bodies could be procured some other way" (vide *Leeds Mercury*, 31st ult.) The days of "body-snatching" are passed, and it requires the courage of a Poor-law guardian to hint at their revival.

THE ANNUAL DINNER OF THE GLASGOW AND ABERDEEN MEDICAL GRADUATES.

THE Glasgow and Aberdeen Medical Graduates had their annual dinner at the "Criterion" on Thursday, Oct. 24th, Dr. Matthews Duncan occupying the chair, and Dr. Owen Rees the vice-chair. Apologies were read from the Lord Advocate, who was detained in Glasgow by the legal proceedings taken against the Directors of the City of Glasgow Bank, from Dr. Andrew Clark, and others. In proposing the toast of the evening, after some remarks on the importance and growth of the Club, and on some projected improvements in its constitution, the Chairman appealed to the large assembly as evidence conclusive as to their respect and regard for and interest in the *almæ matres*, Glasgow and Aberdeen. These Universities now improved year by year, in their buildings and educational appliances, their organisation, their teachers and their teaching. Everyone recognised this, and there was no doubt the improvement would be still progressive. He pointed out the great advantages to medical education of the overshadowing influence in Scotland of the great universities to which the medical schools were adjacent—an influence which, he said, was perceptible in the remotest wards of the neighbouring infirmaries. Referring to the recent laborious and valuable work of the University Commissioners, with their numerous (perhaps too numerous) practical recommendations, he expressed a hope that the central or general teaching—that which was common to all the different graduates—would remain, as heretofore, universal, in accordance with the name "university." Those hostile to this view spoke sneeringly of a smattering of knowledge, but he was sure that those present concurred with him in regarding this "little" knowledge of humanity, of science, and especially physics and philosophy as essential and of immense value, especially to medical students. All branches of knowledge had now grown to such extent that it was extremely difficult to concentrate them for teaching purposes. But the difficulty was not indefensible, and should be overcome, for without this groundwork in every graduate the university teaching of Scotland would be maimed. The great object of this club was the honour and prosperity of the Universities of Glasgow and Aberdeen.

STARVATION IN THE NURSERY.

THERE are not a few little meannesses amongst what are called the respectable classes of society, and some of them are trivial enough. Everyone knows the half-dried mud at the bottom of an inkstand resplendent with or-molu, the pen that will not write, the blotting-paper that "blots" only too completely, so very black and changed is it with long-continued use. Most medical men, too, are pretty well acquainted with the patient who calls a week after his first interview "only to ask a question," and under cover of this flag quietly appropriates a second and often lengthy consultation. But some are serious, and prominent amongst these is the only too common meanness which grudges a wholesome supply of milk to the nursery, which insists that the dairy expenses shall be represented by pence, not shillings. It would seem incredible, but that daily experience teaches us the fact, that large numbers of persons occupying decent positions in society systematically starve their children in respect of that article of food which is of all the most essential to their nutrition. Even to very young and fast-growing children they give cocoa with water, and not always even a suspicion of milk, corn-flour with water just clouded with milk, tea, oatmeal, baked flour, all sorts of materials, indeed, as vehicles of milk, but so very lightly laden with it, that the term is a sham. There are thousands of households in which the children are reared upon this miserably defective dietary—pale, slight, unwholesome-looking, and, as their parents say, in something like a tone of remonstrance, "always delicate,"—households, too, in which wine to the value of some four or five shillings is consumed every day in the dining room. There is no question of the existence of this anomaly, although it must be allowed that in some cases there is the excuse of ignorance for it. The parents do not know that, supposing even there were no other reason, their wisest economy is to let their growing young ones have their unstinted fill of milk, even though peradventure the dairyman's bill should come to nearly as much as the wine merchant's in the course of the week. But in many the stint is a simple meanness, a pitiful economy in respect of that which, it is supposed, will not be open to the criticism of observant friends.

MEDICAL REVIEWS IN LAY NEWSPAPERS.

ON a recent occasion we felt it incumbent upon us to remonstrate against the republication in the columns of a newspaper of a medical paper which appeared in our professional pages. The growing practice of reviewing medical books in lay journals calls for notice in the same sense. We are very far from grudging any member of the profession the just reward of his labours, and it may be admitted that, to be profitable, the reputation earned must, to some extent at least, be recognised by the great community of which he is a useful member. Meanwhile, it is of the highest concern to Medicine, as a calling, that practitioners shall be known to the public by their work rather than their works, as curers of disease instead of writers on professional subjects, who, while addressing their fellow-labourers in the field of science, are, in fact, talking over the hedge to the public, with a view to self-glorification and personal advantage. As a rule, it is inexpedient that books which are not meant for general reading should be reviewed in the lay press, and we are sorry to notice a growing tendency to the friendly criticism of works on professional subjects in the provincial journals. A consideration which may be fairly urged on the notice of editors who encourage this method of publicity arises from the fact that when the literary production of one local practitioner is reviewed his colleagues in the district, who have not rushed into print, are placed at a serious disadvantage. The man who has written a book must, it is supposed, be the better practitioner, whereas, perhaps, the truth lies in the opposite direction. Lay journals will do wisely to avoid setting themselves up as courts of appeal for rival practitioners, and leave the reviewing of medical works to those by whom alone their value can be accurately assessed.

VACCINATION IN KENSINGTON.

THE annual report of Dr. Orme Dudfield, medical officer of health for Kensington, has just been published, and a chapter thereof is devoted to a detailed account of the arrangements made in the district for vaccination and re-vaccination, and the practical results. It appears that one of the stations of public vaccination has lately been closed, and, curiously enough, was followed by a sharp but brief outburst of small-pox in the Brompton sub-district. Dr. Dudfield considers that every adult should be revaccinated as soon after fifteen years of age as possible, and thinks that a law should be passed to render this practice compulsory. It appears that in this district vaccination has been exceptionally well performed. The result of a house-to-house visitation and an inspection of schools instituted by the guardians showed that 270 streets were canvassed,

in which there were 7996 houses, populated by 21,000 separate families. In these a total of 290 unvaccinated children were found; the inspection of nine schools, containing 2089 children, resulted in the discovery of 60 children unprotected by vaccination, making thus a total of 350 cases in the district. Of these 303 have since been vaccinated and certificated, 13 were undergoing the operation when the report was compiled, and 27 were certified as unfit on account of ill-health, thus leaving only 4 unaccounted for, in which legal proceedings were necessary. It is observed that a large proportion of these children were born in other parishes, some were not registered, and others were registered falsely, so that this was the only tangible means of reaching them. The London School Board declined to accede to the application of the guardians to inspect the children in their schools. From observations made during the last three years, it would appear that Kensington vaccination is better by five per cent. than that of the metropolitan districts generally.

PANICS IN PLACES OF PUBLIC ASSEMBLY.

WE are glad to find that magistrates are refusing licences to some of the least safe music-halls in the provinces. It is high time concerted, or at least simultaneous, action were taken in the interest of public safety throughout the country. Notwithstanding all that has been done in this matter, it is impossible to disguise the fact that several of the most popular theatres in the metropolis and many in the provinces are so constructed that in a moment of alarm disastrous results would be wholly unpreventable. The common impression that a house which *can* be emptied in a few minutes is reasonably safe is the sandy foundation upon which surveyors to the Lord Chamberlain and the inspectors who advise justices are wont to build their confidence. There is no ground more treacherous. When this comes to be supplemented by the provision of "extra" exits "to be used in case of emergency," the extreme of absurdity is reached. Viewed from a common-sense standpoint, the last order of the Lord Chamberlain was simply puerile. To be of the slightest use in a panic, even to the few who retain their self-control, the way of exit must also be the way of ingress. Extra doors must cease to be occasional, and be made plain to the audience, not by printed notices, but by being used as entrances to the auditorium. If managers will not fall in with this arrangement, the licence should in all cases be withdrawn or withheld.

VOLUNTEER AMBULANCE DEPARTMENT.

A NUMEROUS gathering of Volunteers of all ranks assembled in Westminster Hall on the 1st inst., to witness the distribution, to some 250 men, of certificates of having attended the classes of instruction in "stretcher drill and field dressings," and of having passed an examination entitling them to be enrolled as efficient members of the Ambulance Department. The recipients were drawn up into three sides of a square, and comprised a large number of medical and other officers, in addition to the rank and file. Almost every metropolitan corps and regiment was represented, and a few Royal Naval Reserve Volunteers added to the numerous but picturesque grouping of uniforms.

The head of the Medical Branch of the War Office, Surgeon-General Munro, C.B., had consented to distribute the certificates, and shortly after 6 P.M. he entered the hall, accompanied by Surgeon-Majors W. McNalty and A. Clarke, Captains Cook and Pringle, and Lieutenant A. Maclure, London Scottish, the indefatigable honorary secretary of the Ambulance Department. After a brief inspection of the parade, the Surgeon-General proceeded to the work of the evening, each Volunteer being called up separately to receive his certificate. This ceremony occupied some considerable time, and at its conclusion Dr. Munro addressed the Volunteers in a few well-chosen sentences, congratulating them on their zeal and assiduity in attending the classes with the regularity they had done, exhorting them to patience in still further developing the movement so auspiciously begun, and assuring them of hearty support.

HYDROPHOBIA.

A DEATH from hydrophobia is reported from Hertford, in which the disease came on twelve months after the bite from a rabid dog. The nature of the case and its relation to the bite appear clear. The man was a labourer, aged fifty-six, the dog the man's own, and it had previously bitten the man's employer's wife and son, also several animals which had become rabid. The bite was a severe one, the arm being greatly lacerated, and the wound long in healing. The disease began with discomfort in the throat, followed by spasm on drinking, difficulty in breathing, and apparently an unusual amount of muscular weakness. According to the newspaper report, death occurred very rapidly, on the third day after the onset of the symptoms, and was due, in the opinion of Mr. Wm. Odell, who attended the patient, to exhaustion and suffocation. A post-mortem examination showed no other cause for death.

Extensive lacerated wounds by rabid animals are extremely dangerous in consequence of the impossibility of efficient cauterisation and excision. The rapid progress of this case, in conjunction with the long incubative period, is worthy of note. It would be interesting to know if any cauterisation was employed in the case of the other bitten persons.

GAS HOT-PLATES.

NOW that gas is becoming more generally used for cooking, it behoves those who adopt what is really a very great convenience, to see that the necessary fixtures are fitted with a due regard to sanitary requirements. A large section of the public seems to be entirely ignorant of the fact that the products of combustion given off by a gas-flame are as noxious as are those given off by a fire, and they seem to think that what is invisible is necessarily harmless. Many gas engineers are content to fix apparatus without insisting on making the necessary flues, and the law does not, as it should, make it a punishable offence to poison a household with carbonic acid. We were asked a few weeks since to visit the kitchen of a West-end house to give an opinion as to the wholesomeness or otherwise of the cooking arrangements. We found a gas hot-plate with five circles of burners, each circle having some twelve or fifteen jets, so that when the hot-plate was fully heated some sixty or eighty gas-jets were in active combustion. Each of these jets produced about two cubic feet of carbonic acid per hour, giving a total of from 120 to 160 cubic feet, in addition to sulphurous acid. No chimney was provided for the escape of the gas, and the mistress was at a loss to know why it was that her cook looked so pale and ill, and the cook could not understand why, when there was company or any other cause for increased cooking, she felt, as she expressed it, "giddy, and fit to fall upon the floor."

Now, since it is estimated that each gas-jet fouls the air to a degree equal to a human being, it is evident that the population of the kitchen practically amounted at certain times to sixty or eighty persons, in addition to the cook and kitchen-maid, and the exhalations from this "black hole" have no way of escape except through the kitchen-door and into the house.

We are told that these gas hot-plates are fixed more often without than with flues, and, such being the case, it is not to be wondered at that gas-cooking apparatus has an evil

repute. The gas companies, it is said, are going to earn their dividend in the future by heating rather than illuminating. They had better take heed lest the reputation of gas be damaged by ignorant tradesmen.

THE "UNITED SERVICE GAZETTE" ON NAVAL SURGEONS.

THIS journal, in a recent article, appears anxious to justify itself by explaining how, in its own opinion, the naval medical service still continues in such a bad way. Two columns, with seven years' experience, are given, and from these are deduced the following facts: — That whereas 476 is the standard of strength required by the Admiralty, 441 only were actually on the list in 1877, 21 having retired, and 35 representing the deficiency. But though there were in the same year only 393 (on the average) actually employed, 48 represented the average actually on half-pay. If the standard had been reached (476) an average of 83 officers would have been unemployed. The standard of strength has, as it is there pointed out, never been realised for the last seven years, the deficiency amounting to 36 yearly, and 28 representing the actual average of entries. Our contemporary then proceeds to show that compulsory half-pay is one of the chief grievances of the service, because compulsory half-pay comes at a time when the officer is least able to bear it, and the practice is, moreover, one to which no other analogous employment is subjected. The article sums up by saying, in effect, "It is a mystery to us that the Admiralty should desire to maintain a staff of 476 officers, when 375 is all for which they can find active and continuous employment." We have but to add that combatant officers, as well as those belonging to the civil and administrative departments, are in the Royal Navy subject alike to the compulsory half-pay system. And, moreover, as we remarked some weeks ago, there appear to be good grounds for the assertion that many naval medical officers, whose circumstances and inclinations make them indifferent to active employment, assist, so to speak, Admiralty traditions and predilections by remaining on half-pay even when offered active employment, and this, too, in spite of the fact that half-pay service does not count for retirement. We can readily imagine that an officer with some private means, and the prospect of being sent afloat with an unpopular commander, would naturally prefer to wait, particularly if the ship in question were about to sail for the West Coast, or a South American station. And so it is probable that these men continue to keep up the so-called compulsory half-pay list that the *United Service Gazette* wishes to annihilate.

SANITATION AT LEATHERHEAD AND CHERTSEY.

THE *Surrey Advertiser* of the 26th ult. contains a very voluminous account of proceedings that occurred at a meeting of the Rural Sanitary Authority of Epsom, the chief bone of contention being a code of bye-laws which the Leatherhead Sanitary Committee wished to be authorised before they were sent up for final approval to the Local Government Board. It seems that Leatherhead has at present no system of drainage or sewerage whatever, and is thus in the position of a defaulting authority. Dorking and Epsom have endeavoured to effect a union for drainage purposes with Leatherhead, but hitherto without success, in spite of the energetic endeavours of Dr. Jacob, who is continually urging the members of his combination to active sanitary proceedings. It is somewhat remarkable that in many instances the districts just extra-metropolitan are worse off in health matters than others in England much more truly rural.

At the last meeting of the Chertsey Rural Sanitary Authority, an outbreak of diphtheria was reported by Dr. Jacob as having occurred at Hersham as the result of impure water and improperly constructed cesspools. A small but defined outbreak of scarlet fever was also reported by the same health officer at Lyne. Five houses were infected, and in consequence of representations made by Dr. Jacob, the schools in the immediate neighbourhood have been closed. Diphtheria has also broken out at Ottershaw, but the disease is at present limited to one house. We simply record these facts in order to show the practical good that arises from the presence and continuous supervision of an active health officer like Dr. Jacob, who, having a large combination, is enabled, and, indeed, is compelled, to give his undivided attention to sanitary matters, and so co-operates with his sanitary boards cordially, energetically, and, as a natural consequence, with great success. Physical activity, as well as mental smartness, is an important qualification of a medical officer of health, who should be, as far as possible, an ubiquitous individual.

"THE DOCTORS' QUARREL AT PONTYPRIDD."

THE sad railway disaster at Pontypridd, which happened a few days ago, has given rise to a most unseemly correspondence in the newspapers as to the conduct of Mr. Hopkins in not administering chloroform to one or more patients on whom he had to operate. The unseemliness of the correspondence consists in the fact that Mr. Hopkins's chief accuser is Mr. Vachell, himself a medical man, who attributes blame, and even brutality, to Mr. Hopkins. Mr. Hopkins has, with much dignity, declined to discuss a medical question in a newspaper; but he has his satisfaction in the genuine expressions of gratitude from the patients to whom he had behaved so "brutally," in tributes of respect from various neighbouring medical men, and in some excellent editorial remarks in the local papers. A medical man who enjoys the esteem of a community can afford to treat with silence the ill-judged censure of a medical brother, who, if he had any real ground of complaint against Mr. Hopkins, should have complained directly to him in the first instance, and, failing to get redress, to the ethical judgment of the profession.

A GOOD IDEA.

IN a letter to a daily contemporary, the vicar of Battersea describes an effort which is being made to start, in the neighbourhood of Clapham Junction, a small hospital which shall be self-supporting, connected with and on the model of a provident dispensary. He suggests that there ought to be hospitals into which those who are unwilling to enter endowed hospitals as paupers, or obtain subscribers' letters to hospitals supported by voluntary contributions, should be able to gain admission on payment of the charges for support and attendance. There can be no doubt that some such scheme must ultimately be widely adopted, and the experiment is well worthy of support and encouragement. But it is difficult to see why a modification of the conditions of maintenance of patients in general hospitals supported by voluntary contributions should not also be sought. There is practically but little difference between these and those which it is proposed to establish, for though nominally "self-supporting," such hospitals for the lower middle classes can only be so in a limited degree. They must first be established free of debt by contributions, and where hospital accommodation is already sufficient, it would be far better to allow those patients who were able and willing to pay a fixed sum for their support. In the neighbourhood of London and of large towns there will, however, always be a deficiency of hospital accommodation to meet the needs of all, and such smaller self-supporting hospitals will serve

to relieve the overplus and allow the larger hospitals to be used more for severe or special cases. If the general adoption of some such scheme empties the large general hospitals, it will only serve to impel them to introduce a salutary change. A very large number of those using general hospitals could and ought to pay something. We have again and again suggested the adoption of some such plan, and discussed its possibilities and difficulties. Meanwhile, we heartily wish the new hospital the success it merits, and which under good management it will no doubt achieve.

THE DEPTFORD CATTLE MARKET.

MR. N. H. PINK, medical officer of health for Greenwich (in which district the above market is included), has just furnished to his board an elaborate and exhaustive report as to the sanitary state of the Foreign Cattle Market, which belongs to the City Corporation, and is kept up by them at a very considerable cost. The *Kentish Mercury* of last week, from which we take a summary of this valuable report, explains that the processes carried on in these yards comprise, according to Mr. Pink's notes—(1) gut-cleaning works; (2) tripe-boiling; (3) slaughter-house works; (4) lairage for beasts kept there previous to being killed; and (5) meat-boiling. Manure is also accumulated in the yards in very large quantities, is subjected to purification by means of quicklime, but is kept there for so long a time that decomposition commences, the liquid portion flows about among the loosely paved receptacles, and finds its way into the dock, causing an offensive effluvium. The health officer epitomises the objectionable features of each of these processes, and in so doing remarks that as many as about 1800 head of cattle, 15,000 sheep, 1000 pigs, and 300 calves, are killed weekly in the market. This seems an enormous aggregate, and we can readily conceive that the very moderately expressed report of Mr. Pink gives an entirely honest estimate of the nuisances that exist, or are likely to exist, unless very great care and diligence are used in the employment of prophylactic measures. Mr. Pink considers in brief that more general cleaning should be employed; that the lairs should be thoroughly cleansed and washed down every day, as with cowsheds throughout the metropolis; that no condemned meat should be sent to Deptford for boiling from the metropolitan markets; and that the manure from the ships, and also from the yard, should be without delay sent away in barges, so that the lime, or any other necessary process of disinfection, may be carried on afloat instead of ashore, in order to avoid two disturbances of the material and so two disseminations of noxious odours. There are many other points worthy of perusal, but we think that this report should have a wide circulation, because it points out what ought to be done in such a case, and how to do it, in an eminently practical as well as concise style.

YELLOW FEVER.

THE last report of the Surgeon-General at Washington is dated for the week ending the 19th ult., and shows that during the previous seven days, 976 cases and 255 deaths had occurred in the city of New Orleans, making a total of 12,182 cases and 3635 deaths since the beginning of the epidemic in July. From Memphis, 108 deaths are reported, making a total of 2892 fatal cases. Vicksburg shows a list of 32 deaths during the week, and Holly Springs about 200 cases under treatment, the district having sent returns of 1117 cases and 285 deaths. Dr. Thornton, who has charge of the Marine Hospital Service at Memphis, is ill with the fever. Milan, in Tennessee, is the only place in which the disease had commenced during the week under review, and it was proved to have been imported by a refugee on August 26th, whereas the first case occurred among the inhabitants on Oct. 12th. Assuming the truth of the importation theory, how in that case was the disease kept alive during this rather long interval?

SENSELESS SENSATIONALISM.

THE passion for astounding feats of pedestrianism has, we think, overstepped all bounds, and become senseless in the exhibition with which the public appetite for sensationalism is regaled at the Agricultural Hall. The emulation would seem to be to exhaust the vital as well as the muscular powers most completely. In the progress of such a competitive struggle for the highest reach of folly science can have no interest, and the spirit of manliness neither sympathy nor concern.

MEDICAL ARRANGEMENTS FOR THE AFGHAN EXPEDITION.

DEPUTY-SURGEON-GENERAL A. SMITH is to be Principal Medical Officer, First Division. Deputy-Surgeon-General F. F. Allen, C.B., to have the medical charge of the Kohat column. Deputy-Surgeon-General J. Hendley is appointed to the Quettah force. The Indian Government are forwarding large supplies of blankets, warm clothing, portable food, stores, &c., of all kinds, for the use of the troops now taking the field.

IT has been decided to close the Hospital Saturday Fund for the present year on November 30th, on which day the awards to the hospitals and dispensaries participating will be made. The collection up to date amounts to £6200, as against £5786—the total collection last year. No less than 850 new firms have this year contributed to the fund, and, considering the very depressed state of trade, the council feel they have every reason to congratulate themselves on the result.

WE regret to announce the death of Dr. J. R. W. Vose, Consulting Physician to the Liverpool Royal Infirmary. The deceased gentleman was attacked on the 1st inst. with spinal paralysis (due probably to a carriage accident sustained in Midsummer last), which terminated fatally on Thursday, the 7th inst.

THE Swinton Local Board and Urban Sanitary Authority have, upon the recommendation of Dr. Blythman, the medical officer of health, passed a resolution to give a fee of 2*s.* 6*d.* for each case of infectious disease reported by local medical practitioners.

IN view of further operations in the Zulu country, a strong reinforcement of the Army Hospital Corps, consisting of three officers and fifty men, embarked on the 7th in the Union Company's mail steamer *German* for Cape Town.

THE Faculty of Physicians and Surgeons of Glasgow, at their meeting on the 4th inst., authorised their treasurer to pay the sum of 150 guineas to the fund now being raised to assist the ruined shareholders of the City of Glasgow Bank.

THE Report of the Army Sanitary Commission, recently issued, alleges that out of a total number of 886 deaths, 264 must be credited, directly or indirectly, to drinking.

MR. EDWARD ALBERT SCHAFER has been appointed Fullerian Professor of Physiology to the Royal Institution of Great Britain for three years.

THE local authorities at Exeter have come to the conclusion to apply for an application of the Contagious Diseases Acts to their city.

ABSTRACTS OF

INTRODUCTORY ADDRESSES,

Delivered at the Dublin Hospitals, Session 1878–79.

ROYAL COLLEGE OF SURGEONS MEDICAL SCHOOL.

THE opening lecture was delivered by Mr. STOKER, who observed that the medical profession was one ever changing, ever advancing, altered and improved, not only by the devotion of its votaries, but by the march of sister sciences, and by changes in the type of disease. See the change in the treatment of fevers, mainly due to Graves and Stokes; the comparative disuse of mercury in acute cases; the abolition of bloodletting; the introduction of anæsthetics, and the improvements yearly effected in them; the bloodless methods of surgery; the better means of securing arteries; the way in which lithotrity is superseding the operation of cutting for stone; and the results of ovariotomy. Having regard to these and a hundred other alterations and improvements, they must admit that their pursuit was constantly developing, and would suffer no rest in those who follow it. If Stokes, Graves, and Simpson had been content to rest, if such men as Syme had taken things as they found them, those means would not be in their hands to ease their labours or to compel their art. Many of the troubles they would have to contend with were in process of removal or alteration. Without hoping for a medical Utopia, they might reasonably expect in a little time to see a higher standard of preliminary examination required, a closer attendance exacted on the ordained means of instruction; those means themselves ordered more in accordance with their wants, and with the improved knowledge of the day, by an extensive modification of the lecture system, and by an increase in clinical and practical modes of study. He trusted they might even see enforced sessional examinations, and the establishment of central licensing bodies. The list of sciences they had to pursue was a long one. If they inquired into the value of the physical sciences, which at first sight seemed removed from their province, they found in them, not only means of training and developing their mental powers, but valuable aids to the surgeon and physician. Looking to the studies more directly proper to them, there were at least three of them that claimed their best attention — Anatomy, Physiology, and Chemistry. Their great end was the observation of disease at the bedside, its diagnosis, and its treatment. Their great means to this end was the possession of a knowledge of a number of subjects, among which these three are prominent.

MEATH HOSPITAL.

THE opening address of the winter session was delivered on the 4th inst. by Mr. PORTER, senior surgeon to the hospital. The lecturer, having alluded to the death of Dr. Stokes, one of the greatest physicians Ireland ever had to boast of, proceeded to say to those joining the medical profession that if they hoped to be successful they must be assiduous, patient, and hardworking students, but in any case they must not expect that their paths would be strewed with roses. Spasmodic intermittent fits of assiduity were valueless; they tended to deceive them and those friends who were anxiously watching their progress, and whose happiness was bound up with their well-being and prosperity. He urged upon them the absolute necessity of a sound and liberal general education, it being an error to suppose that a professional education was all that was demanded of them. The advantages of a thorough knowledge of their own language and literature must be obvious, and an acquaintance with modern languages was desirable. It might appear that mathematics, hydrostatics, pneumatics, and mechanics would render but slight assistance in the treatment of disease, but they would enable the student to understand more thoroughly the wonderful mechanism of the human frame, and the laws which regulate its movements. Some knowledge of drawing was recommended, as it would train the hand to steadiness and educate the eye to recognise differences in shape and variations in colour. The necessity of a correct knowledge of anatomy, physiology, chemistry, botany, and pharmacy, was enforced; but it was at the bedside that they would acquire the invaluable experience needful for their calling; it was there that they would learn the use of their senses—sight, hearing, and touch,—which would lead to the power of diagnosis. Their days would be spent among the sick and dying, and they should tread with gentle step and sober mien the wards consecrated to human suffering and sorrow.

RICHMOND HOSPITAL.

MR. CORLEY, after some introductory remarks, alluded to the efforts made by certain ladies to add the medical profession to the list of those ways of living open to educated women. Certain bodies, including the College of Physicians, had thrown open their portals to lady candidates for the medical profession, but the majority of the medical corporations of the country slammed the door in their face. However, nothing daunted, the small but resolute band of heroines made friends for themselves in high places, and changes which have been merely talked of or desired for years by the male members of the profession were set directly in motion last year for the benefit of aspiring medical women when the Medical Act Amendment Bill was brought in. The conjoint scheme would probably ensure a standard above some of the present examinations, but it would obviously be much lower than the highest at present. It would thus operate in the interests of the public in preventing their lives being endangered by some of the now inferior class of medical practitioners, but it would offer no inducement to superior men to prepare for a higher examination, or to devote themselves to raising generally the standard of professional education. He would propose that the scheme should be amended to the effect that there should be two grades on the Medical Register. No. 1, the possessor of which might be called by the familiar title of general practitioner, who would be qualified to practise and recover fees, but not to hold any public appointment whatever; while No. 2 would entitle the owner to be called physician or surgeon, or both, and to fill the Poor-law appointments, hospital, army, and navy, and who should be obliged to pass a second and higher examination by one or more of the licensing bodies. After stating some physical drawbacks experienced by women, Mr. Corley concluded by an appeal to the students to make the most of the opportunities of observing every type of disease afforded them in hospital.

MATER MISERICORDIÆ HOSPITAL.

THE introductory address was given by Dr. GUNN on the 31st ult. The lecturer referred to the system of cramming for examination, instead of working continuously, as being on a par with physical over-training in its injurious effect. That amount of work, mental or physical, which, spread over a year, would strengthen the mind or body, if condensed into two months or six weeks must give rise to permanent injury. That this was true of physical work was an undoubted fact, one that was universally acknowledged; that it was equally true of mental work he had no doubt. Spreading the study over the whole session, and arranging the order of study so that each subject follows the other, would make its acquisition more easy. Owing to the unfortunate absence of roll-calling in some of the Dublin schools it was possible for a student to pass one or two sessions without paying any intention to his studies, and then when, in his third or fourth year, he awakens to a knowledge of his position it is impossible for him to make up for the time misspent. In all educational work the start is the great difficulty. Once the habit of working is established, all becomes easy; but, unfortunately, there were but slight means in most of the Dublin schools of compelling that start to be made at a given time. Among the events of the past year there was one which must be a subject of congratulation to every person who had at heart the perfecting of the system of medical education. He alluded to the changes in the examination of the Dublin College of Physicians. Heretofore, while inaugural addresses trumpeted forth the benefits derivable from preventive medicine, while sanitary writers announced that a new era had dawned, little or nothing was done to ensure that the rising generation of medical men should know anything of State medicine. This hole in their armour had now been made good, and henceforth they would cease to have sanitary medical

officers who knew almost nothing of sanitary science. Dr. Gunn, in conclusion, reviewed the provisions of the various Medical Acts, the operation of which he explained.

ST. VINCENT'S HOSPITAL.

MR. O'LEARY referred to the strides which science in general, both natural and physical, has made within the past few years, in the accumulation of facts with which the science of biology is so intimately connected, and necessarily, therefore, the study of disease in its immediate and remote causes, and its treatment both prophylactically and immediate, are bound up. The new facts based upon scientific data and experimental research open up a field for reflection which was but recently a mere speck in the horizon. When Graham worked silently in his laboratory experimenting upon the interchange of gases through membranes, who would have thought that the patient worker was elaborating the great truth that the very first breath depended upon the law he discovered, that gases pass through membranes in the inverse ratio of the square of their densities. Not less in importance are the results of Dutrochet's discovery of the parallel law of osmosis—namely, that fluids exude through membranes under conditions similar in every way to those which Graham found to be the case with respect to gases. As regards the spectroscope, what wonderful intelligence it brings us of worlds other than our own, showing them to be constituted, chemically speaking, of the same elements as our own. Not less important is its use as a help in diagnosis, it having been found that when light was passed through certain fluids of the body a certain portion of it was absorbed, and thus a modified spectrum was obtained. Owing to the state of perfection to which this instrument has been brought it has enabled such patient investigators as Sharpey, Sorby, and others to arrive at most important results respecting the blood under circumstances of the highest importance.

NEW ENTRIES.

THE practice of registering medical students at the Royal College of Surgeons having been abolished, we shall now and henceforth have to depend, in a large measure, upon the returns supplied by the authorities of the various schools for an approximate estimate of the number of students entering the medical profession during each year, and of the relative proportions beginning their studies at the several schools. It is true that a register is kept by the General Medical Council of *all* medical students, but there is no special provision for showing the numbers at each school. We have, therefore, taken unusual pains this year, by direct application, to obtain the number of new entries at the metropolitan and provincial schools for the academical year, distinguishing as far as possible first-year students and those entered for the full curriculum from those who have already passed through part of the curriculum and have now merely entered a particular school for the first time, or for a partial course. Our efforts have, however, been but partially successful. While the authorities of some of the schools have generously placed at our disposal all the data for correct information, others have shown extreme repugnance to entering into details, and a few, though willing to assist us, have found themselves unable to do so in consequence of a faulty system of keeping accounts which prevents them from distinguishing the entries for a partial course from those for the full course. This unfortunate circumstance necessarily lessens the representative value of the subjoined table, although we have quoted the two classes of entries whenever the distinction has been made for us; in other cases we have given the total of entries only. Before another year a rational system of book-keeping may perhaps be adopted, and then we may expect to get a nearer estimate of first-year students. Such an inquiry is an interesting one, and, although not altogether devoid of an element of curiosity, there is nothing inquisitorial in it, and it is in no degree concerned with the financial condition or the commercial prosperity of any school. These facts seem not to have been kept clearly in mind. One correspondent, for instance, though himself giving an unequivocal return, complains of the vagueness and want of precision in the figures from some schools, at which, he alleges, all students who enter for the first time are designated first-year students, no matter how long they may have spent at other schools. We shall be happy to find that he is mistaken. With this explanation (which applies, however, only to the metropolitan schools) we append the following table, as complete as we can make it.

	Full Entries.	Partial.	Total.
St. Bartholomew's	—	—	145
Guy's	102	13	115
London	55	47	102
St. Thomas's	59	26	85
University College	—	—	81*
King's College	46	8	54
Middlesex	33	14†	47
St. George's	36	3	39
Charing-cross	33	5	38
St. Mary's	20	6	26
Westminster	14	8	22
Manchester (Owens College)	70	—	70
Liverpool	30	—	30
Leeds	26	—	26
Durham (Newcastle-on-Tyne)	19	—	19
Birmingham (Queen's College)	28	—	28
Bristol	10	—	10

* All *bond fide* students in the Medical Faculty.
† Ten for full dental curriculum.

We believe that the numbers from the provincial schools represent *bond fide* entries of first-year's students. From Liverpool and Durham it is expressly stated that this is so. The returns for Scotland and Ireland are not yet complete.

Correspondence.

"Audi alteram partem."

THE DISCUSSION ON IMPERMEABLE STRICTURE AT THE CLINICAL SOCIETY.

To the Editor of THE LANCET.

SIR,—In your issue of Nov. 2nd, in a leading paragraph on the above subject, you imply blame to the President of the Society and myself for having commenced a discussion upon the treatment of impermeable stricture of the urethra, when Dr. Bigelow was expected to demonstrate the manipulation which he has termed litholapaxy. This blame is wrongly administered on your part. As Englishmen, we would not be thought deficient in courtesy to a distinguished visitor, and, therefore, it is right that the public should know that we were not responsible for occupying the evening in this way. The facts are simply these: When I arrived at the meeting the President of the Society asked me whether I should be willing to postpone my case, as Dr. Bigelow was expected. I replied that I was very willing to do so. The meeting then commenced with the exhibition of the cases treated with Martin's elastic bandages. When that was concluded, as Dr. Bigelow had not yet arrived at the meeting, the President began reading the notes of his four cases, and on their conclusion beckoned me to come forward. Of course I then began reading my case. I did not at that time know Dr. Bigelow by sight, and do not even now know whether he had at that time arrived in the room. Hence the fact that this discussion commenced was due to the accident of Dr. Bigelow's non-arrival. Nor am I at all inclined to agree with you in other respects. An operation which has proved itself of such signal service to myself within the course of the last few months, when other things had failed, can scarcely be called "a dead horse" with justice. The object of my paper was to show how the operation might be brought within the domain of antiseptic surgery, even in cases where there is considerable disease of the bladder, and thus its risks diminished to a minimum, and that at the same time there were advantages about the operation, very striking to anybody who had once tried it, which were capable of utilisation in certain cases. I, too, regret that the interest

shown by members in the stricture discussion, if we may judge by the length of the debate and the number of the speakers (although they knew that Dr. Bigelow was waiting, having all come, as you say, to see him), did not allow of a discussion on his instrument, as I cannot help thinking that such discussion would have shown that much of the praise accorded in your article to it was really due to the much earlier-invented and beautiful little instrument of Mr. Clover, with which it is in principle identical.

I am, Sir, yours faithfully,

H. G. HOWSE.

St. Thomas's-street, Southwark, S.E., Nov. 4th, 1878.

To the Editor of THE LANCET.

SIR,—In the recent discussion on impermeable stricture at the Clinical Society, a speaker stated that Professor Dittel, of Vienna, had described all the methods of treatment which were being discussed. I cannot but think that he was in error, although the matter is not very important. Dittel's cases, which were reproduced in our English journals (they were published here after the appearance of my paper—of the date of their publication in Germany I am unable to speak), showed that, in one or more cases, perineal fistulæ were so fortunately situated that probes or bougies could be passed into the urethra behind the stricture, and thence forwards through it. The operation of opening the urinary tract from the rectum, and passing a soft instrument forwards through the stricture and out at the external meatus, the other end being carried into the bladder, originated in Birmingham, and not in Vienna. I am keenly alive to the fact that this geographic circumstance alters the value of the proceeding to some minds. The principle I advocate is that, in exceptional instances, the "membranous" urethra in some cases, and the bladder in others, are readily opened from the rectum. Only a few lines of tissue separate the finger in the rectum from an instrument in the urethra, the tip of the finger being carried to the depression between the anal sphincter and the prostate gland. In some cases I have found the distended bladder itself coming down to the sphincter; here the incision of a bistoury would be as safe as the puncture of a trocar, and may be followed by the introduction of a finger and the passage of an instrument forwards from the internal meatus to the external.

I remain, Sir, yours obediently,

Birmingham, Nov. 4th, 1878. FURNEAUX JORDAN.

To the Editor of THE LANCET.

SIR,—Permit me to correct an inadvertent error in my remarks at the Clinical Society. In referring to a fatal case of puncture of the bladder through the rectum, related by Mr. Erichsen, I find that I attributed the result to infiltration of urine instead of diffusion of rectal flatus. As Mr. Hulke had already pointed out the occasional occurrence of urinary extravasation, it would have been unnecessary further to refer to the subject; but it seemed desirable to point out another source of danger from an apparently simple and innocuous operation in order that the comparative merits of recto-vesical and suprapubic puncture might be rightly estimated. I may add that in my own practice I have found it rarely necessary to resort to either method for the relief of retention of urine, as I have had recourse to the pneumatic aspirator in those exceptional cases which have not yielded to general means of relief. If Mr. Callender had revived Hunter's method prior to the introduction of the pneumatic aspirator, I have very little doubt that surgeons would have had recourse to the suprapubic puncture of the bladder in preference to the recto-vesical operation, as enabling them to proceed at once, or after two or three days' rest, to pass an instrument through the urethra from the bladder, and thus overcome, as Mr. Lister truly described it, the greatest difficulty with which surgeons have to contend—the existence of false passages.

I am, Sir, yours, &c.,

WALTER RIVINGTON.

Finsbury-square, Nov. 2nd, 1878.

FOREIGN BODIES IN THE AIR-PASSAGES.

To the Editor of THE LANCET.

SIR,—On reading Dr. Johnson's lecture in your number of Oct. 12th, "On Foreign Bodies in the Air-passages," it occurs to me to relate two extraordinary cases lately met with in my practice.

1. A healthy, strong man presented himself to me about an hour after his dinner, looking somewhat anxious, but apparently in very little distress, urging the necessity of having a piece of bone removed from his throat, which he was after swallowing, saying at the same time he had been with another surgeon, who sent him away after an examination, persuading him that there could be nothing of the kind there, and if he did happen to swallow it, no doubt it had passed on into the stomach. However, he said he knew better, and demanded my interference. He had a very capacious mouth, and must have had a capacious gullet, as after-circumstances will prove. I passed a good part of my hand into his mouth, and made a plunge by the right side of the epiglottis a good way below it, and satisfied myself at once that a foreign body was lodged there. His violent effort at vomiting made me withdraw my hand, and renew the attempt after a short interval, when I felt the bone quite perceptibly, it having changed its position somewhat during the time. His next effort at vomiting brought with it, to my astonishment, the bone of a mutton chop, comprising the vertebral end, with an inch and a half of the rib attached to it, pretty well covered with meat. "Yes," he said, taking up his bone, "I knew it was there." This man, I found afterwards, was a great gourmand, and was accustomed to bolt his meat in enormous pieces.

2. I visited a child six years old, pale, and distressed-looking, with a constant irritating cough; copious expectoration of mucus, occasionally mixed with pus and blood; swelling and redness, as far as I could see, round the fauces. On examining the chest, I could find nothing to account for it, and, somewhat puzzled, came to the conclusion that ulceration existed somewhere about the larynx from some cause, and treated symptoms for a few days without any relief, when, during a fit of coughing, the child discharged a piece of bone seven-eighths of an inch in length by half an inch in its widest part, and irregular in shape. Then the mother of the child recollected, about the time the cough commenced, his having complained of something hurting him in swallowing some cabbage that was boiled with a pig's head.

I need hardly say the child quickly recovered from the consumption he was supposed to have; but what I consider extraordinary in the latter case was the little difficulty there was in swallowing, or any symptom to lead one to suspect a foreign body to be the cause. Even in the former case the man swallowed large quantities of water, with the hope of washing the bone down without the least difficulty.

I am, Sir, yours, &c.

Chelsea, Oct. 14th, 1878. HENRY FISHER, M.D.

THE CROUP AND DIPHTHERIA COMMITTEE OF THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

To the Editor of THE LANCET.

SIR,—Lest any inference should be drawn from the silence of other members of the Croup and Diphtheria Committee but that they are awaiting the opportunity for discussion which the Medical and Chirurgical Society is about to afford, I perhaps may be allowed to point out, what indeed is obvious, that Dr. Semple, in your last issue, is speaking only in his individual capacity, and not as representing the Committee of which he is a member. To what extent the views he expresses are shared by his colleagues will no doubt appear in the forthcoming discussion, no part of which is it my present purpose to forestall.

I am, Sir, yours &c.,

W. HOWSHIP DICKINSON, M.D.,
Chairman of the Croup and Diphtheria Committee.

November 5th, 1878.

THE RADCLIFFE INFIRMARY.

To the Editor of THE LANCET.

SIR,—My attention has been called to a letter in THE LANCET of the 26th inst. from Mr. Slatter, the Chairman of the Committee of Management, in which he tries to set right a statement in THE LANCET of the 19th inst., referring to an inquest lately held in the Infirmary.

The deceased had been under treatment in the Infirmary for a week; and he died, as you rightly suppose, without suspicion of foul play. The symptoms during life were so clear that it was not necessary to open the body after death.

Mr. Slatter says that "the Committee of Management never requested the coroner to hold an inquest."

The fact is that I received from the secretary a printed notice, with this heading:—"Application to the Coroner to hold an Inquest." Enclosed I send you a copy of it.

I am Sir, your obedient servant,

St. Aldate's, Oxford, 28th October, 1878. THE CORONER.

"*Application to the Coroner to hold an Inquest.*

"Radcliffe Infirmary, August 6, 1878.

"SIR,—I beg to inform you that a death has occurred for which the usual medical certificate cannot be given. The particulars are stated below; and if you consider an inquest necessary, I shall be obliged by your directing your summoning officer to inform me the day and hour you appoint for holding it.

"I remain, yours obediently,

"To the City Coroner." "J. HODGKINS, Secretary.

"Name of deceased, Edward Soanes [his name was Robert]; apparent age about sixty. Alleged circumstances of death: Was admitted a week ago; is said to have been drinking; was very stupid and drowsy until yesterday, but took food well. Yesterday he had several 'fits,' and died in the morning."

Medical News.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—The following gentlemen have been admitted Members of the College:—

Edge, Abraham Matthewson, M.D. Queen's Univ., Manchester.
Francis, Charles Richard, M.B. Lond., Sutton, Surrey.

The following gentlemen have been admitted Licentiates of the College:—

Ahearne, Joseph, Oakley-square.
Burry, Henry Burry Pullen, Sompting, Worthing.
Deare, Edwin Walter, Malpas-road.
Gardiner, John Herbert, London Hospital.
Granger, Edgar Bridden, Guy's Hospital.
Howlett, Edmund Henry, King's College Hospital.
Smith, Robert Percy, St. Thomas's Hospital.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen passed the Primary Examination in Anatomy and Physiology at meetings of the Board of Examiners on Tuesday and Wednesday last:—

Luke Teskey, Toronto and St. Thomas's Hospital; Wm. C. Millward and Robert P. Sykes, Edinburgh; Edward W. W. White, Dublin; James Wilson, Belfast; John G. Marshall and Alexander Hill, Cambridge; Arthur Kidd, William I. Pook, and Francis J. Pound, London Hospital; James Marshall and Robt. W. Winstanley, University College; Thomas Bresso, Aberdeen; James H. Kisby, Manchester; Owen F. S. Evans, St. George's Hospital; Alfred E. Odling, St. Thomas's Hospital; Frederick W. Clifton and William Mill, St. Mary's Hospital; Francis W. E. Kinnear, St. Bartholomew's Hospital; Charles Sheard, Toronto and St. Thomas's Hospital; George W. Steeves, Liverpool.

Of the 39 candidates examined on the above-mentioned days, 18 failed to satisfy the Board, and were referred for three months' further anatomical and physiological study.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Oct. 31st:—

Harvey, George Henry, Wivenhoe, Colchester.
Havens, Edward John, Colchester.
Jago, William Pearce, Plymouth.

The following gentlemen on the same day passed the Primary Professional Examination:—

James Thompson Hague, St. Thomas's Hospital; Andrew William Leighton, King's College; J. Humphry H. Richardson, Charing-cross Hospital.

AT a late meeting of the Tullamore Town Commissioners, Dr. Moorhead, J.P., was unanimously elected chairman for the ensuing year.

AT the sixtieth anniversary meeting of the Dresden Gesellschaft für Natur-und-Heilkunde, Mr. Spencer Wells was elected an Honorary Member "in recognition of his eminent merits in science." Mr. Bowman, Mr. Darwin, and Dr. Frankland, are the only other Honorary Fellows in this kingdom.

THERE were 1386 deaths registered in London last week, representing a mortality-rate of 20·2 per 1000 per annum. Small-pox accounted for 3 deaths, measles for 15, scarlet fever for 49, diphtheria for 10, whooping-cough for 22, different forms of fever for 34, diarrhœa for 21, diseases of the respiratory organs for 353.

CHARING-CROSS HOSPITAL ENTRANCE SCHOLARSHIP.—The senior scholarship, value £30 (subjects of examination, those of the Matriculation examination of the University of London), has been awarded to Mr. James King Lewis, of Toronto Villa, Victoria-road North, Southsea.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A general meeting of this Society was held on Friday, October 25th, at 5 P.M., in the Library of the Royal Medical and Chirurgical Society, the President, Sir George Burrows, Bart., in the chair. The attendance of members was unusually large, proving the directors had acted judiciously in changing the hour of meeting from half-past 8 P.M. to 5 P.M. From the statement read of the affairs of the Society, for the half-year ending June 30th, it was shown that a sum of £1729 11*s.* 7*d.* had been received, available for the payment of grants and expenses; that the grants had been £1238 to sixty widows, £55 to twelve orphans, and £25 10*s.* to four orphans from the Copeland Fund. The expenses of the half-year had been £93 4*s.* 9*d.* It had been decided to grant, as a Christmas present to the recipients of relief, £5 to each widow, £2 to each orphan, and £4 to each orphan on the Copeland Fund. The funded property had been increased by the purchase of £510 6*s.* 10*d.* Metropolitan Consolidated Stock, a legacy of £500 from Mrs. Mary Davis Parker, and a composition fee, making together the amount invested. Nine new members had been elected, six had died or withdrawn from the society. One widow in receipt of grants since 1849 had died, and one widow and twenty-three orphans had become ineligible for further grants. There had been no fresh applications for assistance since January, when two orphans were added to the list.

Medical Appointments.

BAYNES, J., F.C.S., has been appointed Public Analyst for the Borough of Scarborough, at £10 10*s.* per annum, 21*s.* for each analysis of water, 10*s.* 6*d.* for each analysis of food or drug, and 21*s.* per day and travelling expences when required to give evidence.

BLACK, P., M.D., F.R.C.P.L., has been appointed a Consulting Physician to St. Bartholomew's Hospital, on resigning as Physician.

DALLAWAY, J. W. D., M.R.C.S.E., has been appointed House-Surgeon to the Westminster Hospital, vice Smith, whose appointment has expired.

DAVIDSON, C., M.R.C.S., has been appointed Medical Officer to the Lincoln United Friendly Societies' Dispensary, at £175 per annum and Midwifery and Vaccination Fees, with house, vice Wagstaffe, resigned.

DAVIES, H. H., M.R.C.S.E., L.S.A.L., has been appointed Certifying Factory Surgeon for Llandyssul, vice Jones, resigned.

ELLIOTT, H., M.R.C.S., has been appointed House-Physician to the Westminster Hospital.

GALPIN, R., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer and Public Vaccinator for the Kelvedon District of the Witham Union, vice Varenne, resigned.

GREENWAY, H., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer of Health for the Plymouth Urban Sanitary District, at £100 per annum, vice Littleton, resigned.

HARRIS, J. D., M.R.C.S.E., L.S.A.L., has been appointed Registrar to the West of England Eye Infirmary, Exeter, vice Tosswill, resigned.

JOHNSTON, G., L.F.P.S.G. & L.M., has been appointed Medical Officer, Public Vaccinator, and Medical Officer of Health for the Parish of Eaglesham, Renfrewshire, vice Bryson, resigned.

MOORE, W., M.B., C.M., has been appointed House-Surgeon to the Hospital, and Surgeon to the Dispensary, Ayr Hospital and Dispensary, vice Nicol, resigned.

OXLAND, Dr. R., has been appointed Public Analyst for the Borough of Plymouth, at £12 12*s.* per annum, 21*s.* for each analysis of water, 10*s.* 6*d.* for each analysis of food or drugs, and 21*s.* for each attendance to give evidence.

PHILIPPS, S. R., M.D., has been appointed Medical Superintendent of Wonford House (Hospital for the Insane), Exeter, vice Lawson, appointed a Deputy Commissioner in Lunacy for Scotland.

POGSON, W., F.R.C.S.Ed. &c., has been appointed Surgeon to the York-road Coal and Iron Company, Leeds.

RAWDON, W. F., L.R.C.P.Ed., L.R.C.S.Ed., has been reappointed Medical Officer of Health for the North Bierley Urban Sanitary District, Yorkshire, at £70 for one year.

ROBERTS, R., L.R.C.P.Ed., M.R.C.S.E., has been appointed Certifying Factory Surgeon for Festiniog.

ROSS, Mr. J., has been appointed House-Surgeon to Dr. Gray's Hospital, Elgin, vice Robertson, resigned.

RYAN, R. S., L.R.C.P.Ed. & L.M., M.R.C.S.E., has been appointed Medical Officer to the Callan Union Workhouse and Fever Hospital, at £80 per annum, vice Keatinge, resigned.

STEELE, C. E., M.R.C.S.E., L.S.A.L., has been appointed Public Vaccinator for the Southern District of Liverpool, vice A. B. Steele, L.K.Q.C.P.I., deceased.

THOMAS, L., L.R.C.P.Ed., L.F.P.S.G., has been appointed Certifying Factory Surgeon for Amlwch.

TOSSWILL, L. H., M.B., M.R.C.S.E., has been appointed a Surgeon to the West of England Eye Infirmary, Exeter, vice Roberts, deceased.

WALSH, Dr. P. F., has been appointed Medical Officer, Public Vaccinator, &c., for the Callan Dispensary District of the Callan Union, at £100 per annum and fees, and £20 per annum as Medical Officer of Health, vice Keatinge, resigned.

WHITE, C. H., M.B., L.R.C.P.L., M.R.C.S.E., has been appointed House-Surgeon to St. Peter's Hospital, Berners-street, vice Bullock, resigned.

WHITE, E. A., M.D., C.M., L.S.A.L., has been appointed Public Vaccinator for the No. 3 District of the Malmesbury Union, vice Jennings, resigned.

WILLIAMS, C., F.R.C.S.Ed., has been appointed Consulting Surgeon to the Norfolk Lunatic Asylum at Thorpe, vice Frith, deceased.

WOOD, W. J. H., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer to Court Forester's Pride of the Ancient Order of Foresters, Boston, vice Radley, resigned.

Births, Marriages, and Deaths.

BIRTHS.

BERRY.—On the 5th inst., at Bracondale House, Wimbledon, the wife of Other Windsor Berry, M.R.C.S.E., of a daughter.

GELL.—On the 15th September, at Southam, Warwickshire, the wife of Alfred Scott Gell, M.R.C.S.E., of a son.

HUTTON.—On the 4th inst., at Leamington, the wife of Surgeon-Major George Allan Hutton, late of the Rifle Brigade, of a son.

MCDONNELL.—On the 2nd inst., at Lower Pembroke-street, Dublin, the wife of Robert McDonnell, M.D., of a son.

OWEN.—On the 31st ult., at Kent Lodge, Southsea, the wife of Arthur Lloyd Owen, M.D., of a son.

PINDER.—On the 27th ult., at Great Clowes-street, Broughton, Manchester, the wife of G. Holtby Pinder, M.R.C.S., L.S.A.L., of a son.

PURDOM.—On the 4th inst., at Eldon-square, Newcastle-on-Tyne, the wife of Dr. T. E. Purdom, of a daughter.

MARRIAGES.

DICKSON—LIDDELL.—On the 30th ult., at Cropburn House, Slamannan, N.B., John Dickson, M.B., L.R.C.S.Ed., of Beeford, Hull, to Eleanor Gordon, eldest daughter of James Liddell, Esq. No cards.

HASTINGS—FRITH.—On the 30th ult., at St. Peter's, Kensington-park, by the Rev. John Robbins, D.D., Vicar, George Hastings, M.D., of Kensington-park-gardens, W., to Alice, daughter of William Powell Frith, Esq., R.A., of Pembridge Villas, W.

STEEL—MURDOCH.—On the 7th ult., at Glasgow, John Steel, L.R.C.P.Ed., L.R.C.S.Ed., Senior Resident Physician, Royal Infirmary, Glasgow, eldest son of the Rev. Robert Steel, D.D., Ph.D., St. Stephen's Church, Sydney, to Frances Mary, eldest daughter of John Murdoch, Esq., of Huntley-place, Inverness.

DEATHS.

ADAMS.—On the 30th ult., at Adelaide-street, Kingstown, co. Dublin, John James Adams, M.B., aged 24.

BENNETT.—On the 27th ult., at Lansdown-crescent, Cheltenham, Dr. William Bennett, aged 75.

BROWNING.—On the 1st inst., at Portsdown-road, Maida-vale, Charles Browning, M.D., aged 73.

DOWNING.—On the 31st ult., at Amersham-road, Deptford, Edward Downing, L.F.P.S.G., aged 70.

DRAPER.—On the 23rd ult., at Kenilworth, Charles Draper, M.R.C.S.E., aged 65.

GREEN.—On the 31st ult., at Berkeley-square, Bristol, Thomas Green, M.D., aged 77.

HEAS.—On the 20th ult., at Clonakilty, co. Cork, Patrick Heas, M.D., aged 35.

HOWISON.—On the 31st ult., at Sussex-street, Belgravia, Howison Young Howison, M.D., Surgeon in the Army, on half-pay, aged 44.

HUGHES.—On the 25th ult., at Llandrillo, Edward Thomas Hughes, M.D., aged 68.

MACARTHUR.—On the 30th ult., at Dumbarton-road, Glasgow, Charles Macarthur, L.F.P.S.G., aged 70.

MACARTNEY.—On the 31st ult., at Longridge-road, South Kensington, Dr. Maxwell Macartney, aged 70.

MURPHY.—On the 30th ult., at Carlisle-terrace, Limerick, William Chapman Murphy, M.D.

WARBURTON.—On the 25th ult., at Prospect House, Betley, John Warburton, L.S.A.L., aged 86.

WRIGHT.—On the 1st inst., at Chatteris, Joseph Hall Wright, M.R.C.S.E., aged 77.

[N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages and Deaths.*]

BOOKS ETC. RECEIVED.

H. Field and Dr. R. H. Semple: Memoirs of the Botanic Gardens at Chelsea.
Dr. H. Doherty: Organic Philosophy. Vol. V.
Dr. A. Macdonald: Heart Disease during Pregnancy &c.
Surgeon-Major A. Porter: The Sanitary and Medical Aspects of the Famine of 1876-77.
Dr. Tyson on Practical Examination of Urine.
" The Cell Doctrine.
Dr. Köcher: Das Sanitätswesen bei Plewna.
A. Poehl: Mittheilungen aus dem Analytisch-Chemischen Laboratorium.
Dr. J. B. Berkart on Asthma.
Dr. F. Barker on the Induction of Premature Labour in the Albuminuria of Pregnancy.
Dr. F. Pearse: The Science of Consciousness.
G. Gore: The Art of Scientific Discovery.
Dr. A. Wilson: Leisure-Time Studies.
Transactions of the Bristol Medico-Chirurgical Society. Vol. I.
S. Osborn on Hydrocele.
The American Journal of the Medical Sciences. October.

Notes, Short Comments, and Answers to Correspondents.

RESEARCHES ON THE ACID OF THE GASTRIC JUICE.

CH. RICHET has examined the gastric juice of the dog-fish and other carnivorous fishes. The digestive agent of these animals is not a fluid, but a slimy, coherent material, scarcely miscible with water, which under the microscope consists of an amorphous substance, with scattered epithelial cells. When a large quantity of water is added to it, it dissolves, and may be filtered. It contains more free acid than the gastric juice of mammals, the quantity estimated as hydrochloric acid amounting to even 10 or 15 per 1000. The bases contained in the juice are not sufficient to salinate the hydrochloric acid, which agrees with Schmidt's statements in regard to the acid of the gastric juice of the dog. Yet it is not completely free; its state of combination appears to be similar to that obtained when hydrochloric acid is added to glycocoll, leucin, or albumin.

Non-Medicus.—We cannot prescribe or give any expression of opinion involving advice in these columns. Apply to a practitioner.

Dr. A. D. L. Napier's paper will appear soon.

VACCINATION.

To the Editor of THE LANCET.

SIR,—With reference to your remarks about "the weakest part of our vaccination system, and the manner in which successful vaccination is sometimes certified," permit me, an old vaccinator, to offer a few brief remarks.

1. The system of vaccination became bad through the too implicit dependence on the prophylactic agency of the introduced lymph, quantity and quality being factors generally disregarded.

2. Even now the law does not define "successful vaccination."

3. And consequently it is beyond the power of the operator to refuse to certify in that very unsatisfactory condition, when a solitary vesicle is the only response to a polypunctured operation.

4. And this will happen sometimes with the most careful manipulator.

5. The present system of Government inspection is doing much to promote a greater uniformity in the character of vaccination by inspiring a spirit of emulation among vaccinators.

6. But that spirit of emulation must eventually become anæmic, unless a more sustaining regimen be provided for an ever-increasing and vexatious toil.

7. For the minimum is the maximum fee as a rule, and here it is 1s. 6d. a case for all near or who attend at the home station—a large sum truly for a careful operation, a long certificate, an entry in a book or register, a ledger account, and a future bill.

8. Especially, too, when we bear in mind that all represents the fee for unsuccessful and postponed cases.

9. And the same three letters will give the value of the "bonus" which the Government is expected to pay.

10. For these inspections are far between, and the many are measured by the few, as observed at the time of visit, and ill-luck generally turns up at the least auspicious moment.

11. To secure efficient primary vaccination, a higher fee should be paid for the operation, and all postponed cases should be paid for also. Last year I postponed fifty cases, for which unpleasant duty I received the large sum of 0; but in some districts the number of postponements must be the equivalent of a large amount of time.

12. And yet the vaccination of the unsuitable cases ought to be discouraged; but the bribe is the other way.

13. To meet the cases of the partially successful, who seldom respond to an invitation for future testing, as well as to catch the fish which eschewed the first net, it should be enacted that every child should be examined at every school, proprietary or otherwise, for the evidence of maximum protection, and again on obtaining employment the examination should be repeated; for no child should be allowed to go to school, and no employer should be suffered to engage a child, or "young person," as the factories have it, without the evidence of proper protection against small-pox.

Yours faithfully,

Gainsborough, Oct. 30th, 1878. D. MACKINDER, M.D.

MEDICAL PRACTICE IN SOUTH AFRICA.

WE continue to receive numerous letters on this subject. One dated September 30th, and signed "A Country Practitioner," indicates that the income from an up-country practice varies from £400 to £3000 a year, "much depending upon the circumstances of the inhabitants of the district," &c.; that a knowledge of the Dutch language is desirable, that the distances to travel are very great, that the scenery of the Free State is very monotonous, and so on. But these very trite remarks may, *ceteris paribus*, be applied to all districts abroad and to some at home where medical men practise. Most, if not all, the communications that we have received on this subject show a very partial acquaintance with the country, or rather the five chief districts of which South Africa is composed, and we can only repeat the opinion that, with industry, good incomes in that country can be readily obtained with very little expenditure of capital. Our correspondent is, however, mistaken in recording that "there are some very good hospital appointments in the colony." There are really but four or five such, severally at Cape Town, Graham's Town, King William's Town, and Kimberley, and these, though they cannot be called "very good" in a financial sense, are, as the writer remarks, "always very difficult to obtain," because a certain if not a large income, is welcomed by a man who, on account of some chronic pulmonary disorder, is compelled to live in a genial climate, and is not equal to work requiring much physical exertion.

A. Y. Z.—The validity of the deed of partnership is a question for the lawyers. Everything depends on the language employed.

CORONERS' INQUESTS.

To the Editor of THE LANCET.

SIR,—I notice in your issue of the 26th inst. that some of your correspondents have, like myself, been in difficulties with the coroner, and on behalf of those who hold resident hospital appointments in provincial towns, where the inquests upon patients dying in the hospital are held at an inn some distance away, and where the coroner disallows the fee to the resident surgeon on the technical ground that the patient died *in the hospital*, I would suggest that the following course should be adopted, in order to resist, if possible, the injustice done to them by compelling them to leave their duties for the performance of those which, in my opinion, are quite extraneous, and for which they should be paid, more especially so where a post-mortem has been ordered, and evidence given thereon at the inquiry:—(*a*) Given a case where a post-mortem has not been ordered, but the house-surgeon simply subpœnaed to give evidence, at the end of which the coroner usually asks the opinion of the cause of death. To such a question I maintain that, in the absence of post-mortem facts, the witness is perfectly justified in declining to submit an opinion. This would most likely result in the coroner ordering an examination to be made, and an adjournment of the inquest would necessarily follow; and as it is only reasonable that the witness should have the assistance of a second person, the coroner would, no doubt, subpœna one of the honorary staff for this purpose, who would probably decline to make the post-mortem unless the fee were allowed, and, as this fee would be two guineas, the house-surgeon would stand a chance of being feed too. (*b*) On the admission of a hopeless case, the house-surgeon could ask the immediate attendance of the surgeon on duty, when the latter would be liable to be subpœnaed as witness, in which case the coroner would hardly refuse a fee. I believe that by the adoption of this course the house-surgeon would eventually come to be paid for services which are not in the ordinary course of his duties, except when the inquiry is held in the hospital, according to the custom of the metropolis. I may add that I feel strongly on this subject; for some time ago I was ordered to make a post-mortem, and give evidence at an inquest held at a dirty public-house, and, to my surprise, a fee was disallowed. Yours faithfully,

J. D. T. RECKITT, L.R.C.S., L.R.C.P., &c.

Norwich Hospital, Oct. 29th, 1878.

Actum est de eo, (Newcastle.)—We agree with the tenor of our correspondent's letter, which, however, we cannot insert, as it is somewhat too personal.

Dr. E. Thomson.—The printers are Harrison and Sons, St. Martin's-lane. Krohne and Sesemann supply elastic bandages.

A CASE OF DISTRESS.

To the Editor of THE LANCET.

SIR,—Will you allow me to bring the following distressing case under the notice of the readers of your columns.

A medical man, who for many years has been carrying on practice in Islington, has at seventy-four years of age been brought down through sickness and loss of mental powers into circumstances of most distressing want. Through the kindness of many friends I have been enabled to raise a sum sufficient to pay many pressing debts for rent &c., and have accomplished the removal of himself and family into a house in my parish, where they hope, by means of letting some of their apartments, to be able to pay their way. At the present time, however, they are completely destitute, actually wanting for bread.

I may add that on application to certain medical benevolent Societies, I heard with expressions of regret that, help having previously been afforded from these quarters, the rules of the Societies would not allow further help being rendered for some time to come.

I should be most glad to answer any inquiries and give details.

I am, Sir, yours faithfully,

J. JOHN HUNT,

November, 1878. Curate of St. Mary, Hornsey-rise, N.

BOOKS AND NEWSPAPERS FOR THE SICK IN CYPRUS.

IT is satisfactory to know that the little comforts of the troops sick in Cyprus have not been wholly forgotten. Lieutenant-Colonel Henry J. White, Her Majesty's Commissioner at Larnaca, Cyprus, acknowledges the receipt of newspapers and periodicals sent for the use of the non-commissioned officers and soldiers in hospital. This is a very interesting object, and deserves attention. Judiciously selected literature is always acceptable to soldiers and sailors, and their claims on the kindly remembrance of the people at home should not be disregarded.

Mr. Engledue Prideaux.—Yes, shortly.

PLACENTA PRÆVIA.

To the Editor of THE LANCET.

SIR,—Cases of the above nature are important, oftentimes anxious and perplexing ones, especially to young practitioners. In this populous cotton district of Lancashire, with a large and rapidly increasing population, the practice of midwifery is great, and cases of placenta prævia occur more frequently than is desirable, and often preternatural cases likewise. Yet they must be dealt with promptly, and according to the best acknowledged treatment of our experienced obstetricians. I have had twelve such cases in the course of my practice, eleven of which have done well. The twelfth case had been in labour two days, with extensive hæmorrhage occurring all the time, and although attended by a medical man, he did not deliver or attempt it, but abandoned the case as a hopeless one, where nothing could be done. On the third day I was called in, and although the poor woman was exhausted, in an exsanguine, prostrate, and apparently dying state, I had not the least difficulty in effecting delivery by seizing the feet of the child and turning, immediately after which the woman died from syncope and prolonged hæmorrhage. How much easier could delivery have been accomplished at an earlier period, before the liquor amnii had escaped. This was decidedly a lost case. Every restorative and stimulus, of course, was had recourse to, and transfusion was out of the question, called suddenly as I was at midnight ten miles from home to a lonely farm-house. Well, I would ask your experienced readers the best treatment to be adopted in these important cases! My plan has always been (as taught at my *alma mater*, Guy's), when called early, and finding extensive hæmorrhage going on, with a dilated os uteri, or dilatable sufficient to introduce my finger, to rupture the membranes, which in most cases arrests all hæmorrhage; then deliver the patient by turning. Can any of your readers recommend a better mode of proceeding?

My friend and colleague in an adjoining town, who has had a large midwifery practice over twenty years, attending some 500 or more cases annually, informs me that placenta prævia cases are very common with him, and he assures me that when the os uteri is dilated to the size of a nut (to use his own words) he delivers at once without rupturing the membranes, and completes all his cases in half an hour, never having lost one. This result appears to me extraordinary. He affirms having had three cases very recently, and one previously, in which a clever medical man pronounced it impossible for him to deliver, which he easily accomplished. I do hope my friend will give us the benefit of his great experience and mode of proceeding in these dangerous cases. If so prompt, effectual, and successful as he states, a description of his method would confer a boon upon the profession.

I cannot help alluding to the singular and, to me, disgusting practice in Lancashire of delivering women upon the floor on their knees, which is universal here. The result is, the child falls more frequently upon the floor or bricks. Again, the medical man has to kneel also for hours together, to his great discomfort and abhorrence. Of course I never permit this practice, but have my patient in bed upon her left side, being much more comfortable for the patient and doctor in every way. I wish very much our medical men in these and other disdricts would discourage this indecent practice; it would then be abandoned.

I am, Sir, your obedient servant,

Nelson, October 22nd, 1878. A NELSONIAN.

Mr. Johnston.—We are not aware that ground coffee is ever prescribed to be taken in large quantities. There must be some mistake.

Dry Soil.—The subject is one on which the advice of a physician should be taken.

ELECTRIC BATHS.

To the Editor of THE LANCET.

SIR,—In answer to a letter from "Querist" in your impression of October 26th, I beg to say there are several ways of making or giving the electric or galvanic bath. One is, having a wooden bath lined with copper, and having a cross-bar of wood and copper for the patient to hold as he lies in the water. One of the cords from the battery is attached to either the bar or the copper part of the bath, which becomes the positive pole; the negative is placed in the water. The water should be from 85° to 95°. Another method, which is much easier of application, is used by me constantly. It is an ordinary long dressing-room bath, two parts filled with water, 90°, so that the patient can lie down comfortably; the water is then charged by placing two plates of copper (size, 12 by 6) into the water; the plates are attached to the cords from a Meyer and Meltzer continuous current battery. The plates must not be allowed to touch the person, for a sharp burning is at once felt, and they will almost jump out of the bath from the sudden pain. I have seen a patient after twenty minutes in a bath of this kind look just like a boiled lobster, the skin being very red, and giving a tingling sensation for some little time. The diseases for which I am in the habit of using it chiefly are, plumbism, lead colic and dropped wrist, rheumatism (subacute and chronic), nervous debility, amenorrhœa, want of development of the uterine organs, infantile paralysis, paralysis agitans, progressive locomotor ataxy, and impotency; and, considering that nearly all these diseases are of a slow or chronic type, this kind of treatment has been most successful. Yours &c.,

Burwood-place, W., Nov. 4th, 1878. SYDENHAM J. KNOTT.

UNPROFESSIONAL ADVERTISING.

ADVERTISING in lay papers in many forms is by far too common in England, but in its most flagrant varieties is generally limited to the lower grade of professional men—i. e., to men whose qualifications, generally speaking, come from the least distinguished of our medical corporations. In the United States of America it is more fully resorted to; but even there a sense of personal and professional propriety is usually sufficient to prevent high-class graduates from lowering their dignity by using the devices of the unqualified practitioner and the patent-medicine vendor. It is with the greatest regret, therefore, that we find a young but very distinguished graduate of one of the best of our Universities, a Fellow of the Royal College of Surgeons, and a Licentiate of the Royal College of Physicians, stooping to such an unprofessional practice. The advertisement of his University degrees and his other qualifications is surely not necessary for his success even in a distant colony. Such cases make us inquire why corporations like the Colleges of Surgeons and Physicians of London do not pass stringent bye-laws forbidding their fellows, members, and licentiates from thus degrading the profession, especially as in other matters of much less importance the regulations of the College of Physicians, at least, are very strict. The College of Surgeons might surely exercise some discipline over its fellows, even if it is powerless or too careless to exert any authority over its members.

Mr. Frank Godfrey.—Declined, with thanks.

DEATH FROM CHLOROFORM.

To the Editor of THE LANCET.

SIR,—Would you kindly insert in your journal the following particulars of a death from chloroform, which occurred in the Newcastle-on-Tyne Infirmary on October 15th.

John William R——, aged fifteen, clerk, complexion florid, and apparently in good health, was admitted into this infirmary on October 3rd, under the care of Dr. G. Y. Heath. His arm had been amputated about four inches below the shoulder-joint seven years previously. The stump had become conical, and the skin had ulcerated over the end of the bone. On October 13th he was placed under chloroform, which was administered, according to our usual custom, on a single fold of lint. The patient was somewhat nervous at first, but went under readily. Immediately after the completion of the operation, which only lasted about one minute, his breathing stopped. The tongue was drawn forward, and the breathing commenced again. He then showed signs of feeling in the stump. Attention was again drawn to his breathing, which was loud and peculiar. No radial pulse could now be felt, and there was no bleeding from the wound, so that, though the heart's action had ceased, the breathing continued for a time. Artificial respiration, galvanism, and friction were made use of; brandy and ammonia enemata were given; champagne was passed into the stomach by means of a tube. Endeavours were made to restore life for about an hour without avail. Two and a half drachms of chloroform was the quantity used, a considerable portion of which must have evaporated off the single fold of lint used.

Necropsy, six hours after death.—Lungs healthy; right apex slightly adherent; no congestion. Pericardium contained about two drachms of clear serum. Heart: valves healthy; right side widely distended with a quantity of dark fluid blood; left side contracted; muscular tissue healthy. Liver slightly congested. Spleen natural. Stomach distended with air. Kidneys congested, but otherwise healthy.

I am, Sir, yours truly,
J. D. DIXON, M.B., M.R.C.S.,
October, 1878. Senior House-Surgeon.

TRAINING FOR MIDWIVES.

AT a meeting of the Corporation of Dublin last week it was resolved to place the maternity department of Sir P. Dun's Hospital on the presentment list for a yearly grant of £50. The maternity portion being distinct from the rest of the hospital, the grant of £300 a year allowed to the institution could not be appropriated to the lying-in branch. We may add that the department has already trained 350 midwives, and attended nearly 5000 poor women at their homes; and, should the grant be obtained, a similar sum will be given by the governors of the hospital.

Medicus.—Comparisons are odious.

THE POSTAL MICROSCOPICAL SOCIETY.

To the Editor of THE LANCET.

SIR,—Will you allow me to call the attention of your readers who are or would be microscopists to the Postal Microscopical Society. It was formed about four years ago for the circulation of slides through the post. A box, containing about a dozen slides and a book of notes and illustrations, is sent to each member for three days' inspection at intervals of two or three weeks. Of the 130 members, 19 are medical men. If more would join the Society, a special histo-pathological department might be arranged, a box of slides of this class being sent (in addition to those of general interest) to the medical members. The annual subscription to the Society is 10*s*; the postage of the slide boxes is additional, but is very small when two or more members live near each other. Mr. Alfred Allen, of 1, Cambridge-place, Bath, is the Secretary. He will be happy to send a copy of the rules or any information to anyone interested in microscopy. Mr. Tuffen West is the President, and contributes excellent drawings, and many valuable slides are circulated by such members as are professional mounters, as well as by the amateurs.

Yours very truly,
Castle Cary, Oct. 23rd, 1878. C. P. COOMBS, M.D. Lond.

MALARIA.

ATTENTION was called in the columns of one of our daily contemporaries to the good effects produced by willow-trees as a preventive of malaria. Dr. Pearl, of Ripe, in Sussex, is the author of the letter, and he suggests that in his own county willows might be planted with advantage, particularly on the coast near Newhaven. We may, however, remind the writer and our readers that fen-land has from time immemorial been as notorious for its rows of willows as for its ague, which was a continuously endemic until agricultural interests compelled a complete and efficient system of draining of the Isle of Ely and the eastern parts of Huntingdonshire and Lincolnshire, since which time intermittent fever has almost entirely disappeared.

MALARIA AND AGUE.

To the Editor of THE LANCET.

SIR,—In THE LANCET of October 5th my attention was drawn to an article with the above heading, written by Staff Surgeon H. F. Norbury, in which he cites a case of ague caused, he believes, by inhaling the odour of decaying vegetation. After nearly twenty years' experience of tropical fevers, I cannot say that the evidence in this case is at all conclusive that the fever was necessarily produced by the cause mentioned, and I doubt if malaria is ever caused by decaying vegetation. It is possible that when Dr. Norbury was standing on the heap of decayed Opuntia, he was at the same time in the neighbourhood of either newly turned-up soil or of ground recently denuded of vegetation. From a "heap" of Opuntia being mentioned, I suspect that a portion of the dry, arid ground on which plants of that species thrive had been recently cleared, and possibly turned, emanations from which, under a tropical sun, I consider much more likely to cause fever than the decaying plants; or perhaps during the four days which elapsed between the exposure and the attack of fever he may have encountered some other exciting cause, as twenty-four hours is usually sufficient for the development of an attack of malarious fever. I have known localities surrounded by rice-fields, mangrove swamps, and tidal mud, where there is always a large amount of decaying vegetation, perfectly free from malarious fevers. I have never noticed that persons living in the vicinity of rank vegetation or rice-fields suffer particularly from fever so long as the growth in the one case is left undisturbed, and in the other while the crops are growing or the ground is covered with water. I know that it is a popular idea that rank vegetation, such as jungle, is necessarily unhealthy, and "breeds fever." But I think on careful inquiry it will be found that neither the forests of Borneo nor the jungles of Assam, nor damp, thickly-wooded districts generally, were considered unhealthy or fever-producing *till the vegetation was cut down.* Witness the unhealthiness of the Assam tea-gardens when the virgin forest is first cleared away, and it is a fact that one may sleep with perfect safety in the Borneo forests if you keep away from, or to the windward of, the clearings. The same holds good with the forests of North America. When the settlers penetrated into the woods, and began to clear the ground, ague made its appearance. In regard to rice-fields, so long as the rice is growing, and the field is *covered with water*, there is no fear of malaria; but when the rice is cut, and the ground begins to dry up, with no vegetation on it, then fever makes its appearance in the vicinity. I lived for nearly six years in a house the wall of which rose sheer out of a rice-field, and I never suffered from fever, nor did my servants, who lived and slept not three feet above the level of the field; but these fields were always under water, summer and winter.

I consider the most fruitful source of malarious fever to be, exposure to the emanations arising from recently turned up virgin soil, or from ground from which the vegetation has recently been removed. The fevers which used to decimate our troops in Hong-Kong were certainly not caused by malaria arising from swamps, decaying vegetation, or rice-fields, as neither the one nor the other of these so-called producers of malaria was to be found anywhere in the vicinity of the barracks, but in every direction roads were being made and sites for houses being levelled; in fact, newly turned-up ground, the unfailing source of malaria. The danger of opening the ground is now recognised by the local Government, and cutting of the cliffs or road-making is entirely suspended during the hot season in the neighbourhood of the city of Victoria. One of the finest sites in the island for a sanatorium—viz., Sia-wan—was hastily abandoned by the military authorities because it was reported to be malarious. The unhealthiness, no doubt, arose from the newly-levelled ground having been built upon, and the houses inhabited before the vegetation had had time to grow and clothe the extensive slopes of freshly-turned soil. The cause of the unhealthiness of the station was at the time of its desertion ascribed to the neighbouring rice-fields and tidal mud; but as these lay some 300 feet below and nearly a mile from the barracks, they could have had very little influence.

The outbreak of fever in Cyprus may, perhaps, be accounted for if road-making and levelling of the ground have been going on during the hot weather in the vicinity of the camp.

To counteract in some measure the evil effects arising from the emanations from newly turned-up soil, the ground should be freely sprinkled with dry lime, and, where feasible, beaten hard into what is called in the East "chunam," or, better still, covered with turf. At the same time vegetation should be encouraged to grow as rapidly as possible.

I am, Sir, yours obediently,
Florence, Oct. 31st, 1878. G. DODS.

Vicar.—The Medical Register is the legal roll of the profession, and the superintendent of a school would be justified in refusing a certificate from any person not on the Register. It can be seen in the office of any clerk of the peace, we presume.

Sigma.—A L.R.C.P. Ed. who signs himself F.R.C.P. is obviously guilty of misrepresentation.

A "DENTIST."

THE *Pall Mall Gazette* the other day narrated the case of an engine-driver, who at a station near Angers employed the few moments of waiting to pull out a tooth for an old lady resident in the vicinity. If any practice of this class has sprung up among the engine-drivers on English railways, they are clearly entitled to be registered under the statute. Probably the operator in this instance might be admitted as a foreigner to the advantages of the recent beneficent Act.

J. T. S.—If the usual fee is sent.

THE BRUSSELS M.D.

To the Editor of THE LANCET.

SIR,—Your correspondent, "Surgeon," will find the following books of great assistance to him in preparing for the M.D. Brussels:—Regional Anatomy: Holden. Surgery: Erichsen. Medical Jurisprudence: Taylor. Midwifery: Milne. Medicine: Bristowe. Ophthalmic Surgery and Medicine: Lawson. Operative Surgery: Bell. Mental Diseases: Blandford. General Pathology: Green. Therapeutics: Milner Fothergill. Hygiene: Parkes. Diseases of Women: Barnes. Yours truly,

November, 1878. M.D. BRUSS.

To the Editor of THE LANCET.

SIR,—In reply to "Surgeon's" letter in your last week's issue, I should recommend him to get the "Guide to European Universities," by Dr. Hardwicke, of Sheffield, in which he will find all the information he requires concerning the Brussels M.D. Yours &c.,

November 4th, 1878. MEDICUS.

BULBAR PARALYSIS.

To the Editor of THE LANCET.

SIR,—In reply to Dr. Dowse, I should like to state that I do not consider *all* cases of this disease incurable; but I think that the recoveries form a very small percentage of the deaths. It also appears to me that in some of the cases described as examples of bulbar paralysis the disease present may have been an example of progressive muscular atrophy commencing at the tongue. I may add that I have perused Dr. Dowse's paper on the subject in a contemporary, and regard it as a valuable contribution to a rare and interesting disease.

Yours sincerely,

Dublin, Nov. 5th, 1878. CHARLES H. ROBINSON.

COMMUNICATIONS, LETTERS, &c., have been received from—Mr. Gamgee, Birmingham; Mr. W. Rivington, London; Dr. G. Halstead Boyland, Baltimore; Mr. Hensman, London; Mr. Jordan, Birmingham; Dr. Berkart, London; Rev. J. Hunt, Hornsey; Mr. Cartwright, Lymm; Mr. Smith, Stockton-on-Tees; Dr. Parker, Maldon; Mr. Rutherford, Newcastle; Dr. Burroughs, Crondall; Mr. Steele, Liverpool; Mr. W. Johnston; Dr. De La Fargue, Godalming; Mr. Graspelier, London; Mr. Tiley, Walton; Mr. Cantlie, London; Dr. Charteris, Glasgow; Mr. Poole, London; Mr. Gerrard, Kington; Dr. Mackintosh, Chesterfield; Mr. Lucas, Agar; Mr. Knott, London; Mr. Keetley, London; Mr. Dods, Florence; Mr. Walker, Holloway; Mr. Blood, Liverpool; Mr. Kelly, London; Dr. Taylor, Corinth, U.S.A.; Mr. Allan, Glasgow; Mr. Whiteley, Leeds; Dr. Gerrith, Portland, U.S.A.; Dr. Gell, Southam; Dr. Read, Manchester; Mr. Fisk, Steynsberg, South Africa; Mr. Leman, Chipping-Sodbury; Dr. Hooper, London; Dr. Thomsen, Plymouth; Mr. Reeves, London; Mr. Blackett, London; Mr. Carden; Dr. Padley, Swansea; Dr. James, Brussels; Dr. Mason, Pontypridd; Mr. Allerton; Dr. Phillipps; Mr. Coleman; Dr. Massiah, Cheadle; Dr. Blythman; Mr. and Mrs. German Reed; Mr. Hugo; Mr. Stuart; Mr. Archer; Mr. Wall; Dr. Great Rex, Lawton; Mr. Fosbroke, Birmingham; Mr. Downing, Newcross; Mr. Andrew; Mr. Llanwarne, Hereford; Dr. Medlicott, Tunbridge Wells; Mr. Stewart; Mr. Philip; Mr. Prideaux, York; Mr. Cross; Mr. Townsend; Dr. Rees, Pontypridd, Mr. Williams; Mr. Harman; Dr. Tatham; Mrs. Hill, Birmingham; Dr. Easby, March; Mr. Howse; Dr. Paterson; Mr. Reeves; Dr. Dickinson; Mr. Meadows, Hastings; Mr. Young; Dr. Anderson, Cramlington; Rev. Mr. Erck, Merton; Dr. Iliff; Mr. King; M. A. B.; Unification; N. B.; Medicus; Sigma; J. C.; M.; M.D. Brussels; R. E. C., Horncastle; Tyrone; J. B. R.; Philo-Ease; B. E., Durham; S. J. C.; J. N.; The Society of Arts; The General Register Office, Dublin; L.R.C.P., &c.; The President of the Metropolitan Branch of the British Medical Association; Æsculapius; Nelsonian; K. A. P.; F.R.S.; Arcadius; L. B. W.; The Hospital Saturday Fund; C. D.; Solicitor; The Anti-Tobacco Society; &c. &c.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Cairns, Wakefield; Mr. Pinder; Mrs. Cash, Matlock; Dr. Dickson; Mr. Moss, Alton; Dr. Whitmarsh, Hounslow; Mr. Dixon, Leeds; Mr. Kennard, Lambourn; Mr. M'Mullen, Camberwell; Dr. Chartres, Arcachon; Mr. Carruthers; Mr. Harrison; Mr. Bryden, Stockwell; Mr. Morgan, Lichfield; Mr. Fenwick, Teignmouth; Dr. Burgess, Dunrossness; Mr. Bradley; Messrs. Roberts and Co.; Dr. Farrar; Mr. Marriott, Nottingham; E. J., Wednesbury; H. H., Epping; Alpha; Medicus, Normanton; D. D.; Medicus, Uxbridge; Cutis; Fagon; Hippocrates; P.; X., Ebbw Vale; H. P., Bristol; W. C., Accrington; M. K.; W. T., Ashby-de-la-Zouch; G. H. J.

Bolton Daily Chronicle, Pontypridd District Herald, Western Mail, Barrow Times, Herts and Essex Observer, Anti-Vivisectionist, Animal World, Britannic, Bury Times, Book-Analyst, Morning Chronicle, Examiner, Peterborough Advertiser, Hull News, &c., have been received.

METEOROLOGICAL READINGS.

(Taken daily at 8 a.m. by Steward's Instruments.)

THE LANCET OFFICE, Nov. 7th, 1878.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Wet Bulb	Dry Bulb	Solar Radia in Vacuo	Max. Temp Shade	Min. Temp	Rain fall.	Remarks at 8 A.M.
Nov. 1	29·92	N.E.	40	42	..	49	37	0·04	Overcast
,, 2	30·14	WNW	36	38	..	48	35	..	Cloudy
,, 3	30·22	S.W.	37	39	..	49	32	0·02	Cloudy
,, 4	29·82	N.W.	35	36	..	44	32	..	Overcast
,, 5	29·80	N.E.	38	41	..	45	34	..	Fine
,, 6	29·27	N.W.	37	41	..	46	35	..	Overcast
,, 7	29·60	N.	38	40	..	47	35	..	Overcast

Medical Diary for the ensuing Week.

Monday, Nov. 11.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
ST. MARK'S HOSPITAL.—Operations, 9 A.M. and 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
MEDICAL SOCIETY OF LONDON.—8½ P.M. Dr. Gilbart Smith, "On a Case of Empyema complicated with Aneurism" (discussion).—Dr. Drysdale, "On Syphilitic Urethritis."

Tuesday, Nov. 12.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.
ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—8½ P.M. Mr. G. Gaskoin, "On a Case of Morphea."—Dr. F. Semon, "On a Case of Thyrotomy for the Removal of a Membrane completely obliterating the Larynx."—Dr. F. Taylor, "On the Condition of the Skin in Tinea Tonsurans."

Wednesday, Nov. 13.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at 1 P.M.
LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday at the same hour.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.
HUNTERIAN SOCIETY.—7½ P.M. Council Meeting.—8 P.M. Dr. Pye-Smith: "Notes on certain Diseases of the Skin."
ROYAL MICROSCOPICAL SOCIETY.—8 P.M. Dr. R. Pigott: "Further Inquiry into the Limits of Microscopic Vision."—Mr. F. H. Wenham, "On the Measurement of the Angle of Aperture."

Thursday, Nov. 14.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—1½ P.M. Surgical Consultations.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.

Friday, Nov. 15.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2 P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, Nov. 16.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.

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Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

N.B.—All letters relating to Subscriptions or Advertisements should be addressed to the Publisher.

Agent for the Advertising Department in France—

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